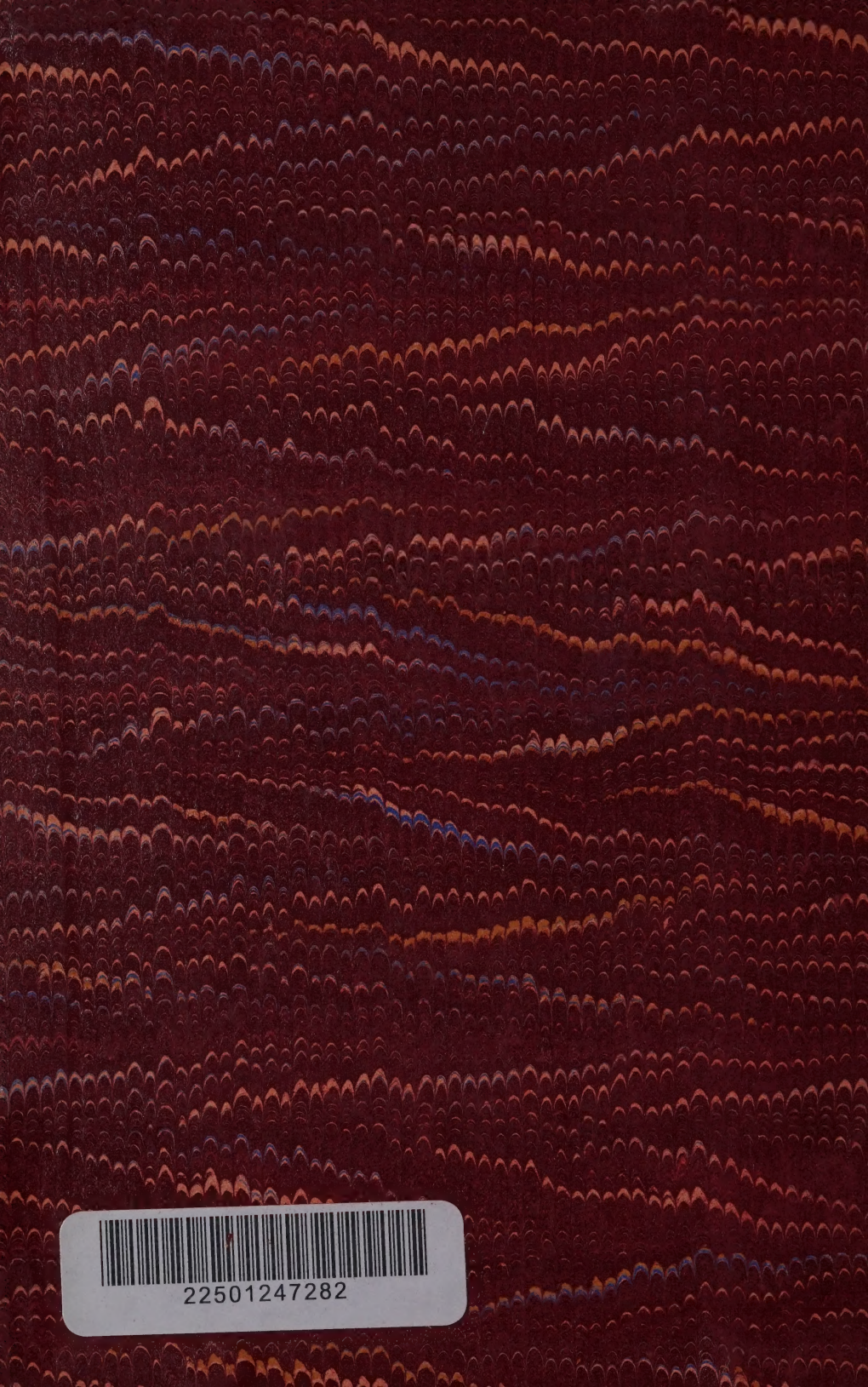
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LOCAL GOVERNMENT BOARD.

REPORTS AND PAPERS

ON THE

PORT AND RIPARIAN SANITARY SURVEY

OF

ENGLAND AND WALES, 1893-94;

WITH AN

INTRODUCTION

BY THE

MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD.

Presented to both Houses of Parliament by Command of Her Majesty.

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REPORTS AND PAPERS

ON THE

PORT AND RIPARIAN SANITARY SURVEY

OF

ENGLAND AND WALES, 1893-94.

SUBMITTED BY THE MEDICAL OFFICER

OF

THE LOCAL GOVERNMENT BOARD,

1895.

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REPORT.

TO THE RIGHT HONOURABLE HENRY CHAPLIN, M.P., PRESIDENT OF THE LOCAL GOVERNMENT BOARD.

SIR,

MEDICAL OFFICER'S INTRODUCTION.

AMONGST the measures adopted by the Board with a view to control the spread of any cholera imported into England and Wales during the three years 1892–94—a period during which this country was especially exposed to such invasion—the Survey which was made by the Board's Medical Inspectors along our coast-line, as also in a number of inland districts, occupies a foremost place.

The Ports of England and Wales are always open to shipping, even though it may come from countries which are infected with cholera, and which may lie at a distance of only a few days' or even a few hours' sail from our shores; and hence it became of the utmost importance, in view of the emergency which set in during the summer of 1892, to secure the adoption and maintenance of the best practicable standard of sanitary defence against that disease in our Port Sanitary Districts. To that end, a large number of English Ports, notably those on our Eastern Coast, had been visited in the latter half of that year; and the results then ascertained led to the organisation of the more complete Survey of 1893–94.

Next in importance to those districts which have been constituted Port Sanitary Districts are the remaining sanitary areas which complete our coast-line, and which, for the purposes of the Survey, are referred to as Riparian Districts. These two sets of districts were, therefore, all included in the later Cholera Survey; and since the information which was collected as the result of it is calculated to be of service both for the purposes of present and of future sanitary administration, it has been deemed desirable to place an account of so much of the Survey as relates to our coast districts on permanent record.

I have, therefore, now the honour to submit this Report to you, together with an Appendix, containing a General Summary Report by Dr. Barry—to whom, with the sanction of the Board, I entrusted the general supervision of the Survey—and also details of the results reported by the Inspectors who were engaged on this work.

MEDICAL OFFICER'S INTRODUCTION.

Dr. Barry's report explains in sufficient detail the principles which govern English sanitary administration in our port and riparian districts, both as regards those infectious diseases, which are indigenous to the country, and as regards Asiatic Cholera; and I, therefore, only submit certain general conclusions and considerations which have been the outcome of the Survey.

The development of our general port sanitary administration was not, until recent years, so advanced as that of our inland districts; and when the Port Survey was commenced, it was found that in only one-third out of a total of 60 Port Sanitary Districts could the general administration be regarded as satisfactory and efficient. Efficiency, for the purposes under consideration, means the appointment by the Port Authority of a competent and adequately remunerated medical officer of health, and of a properly instructed sanitary inspector; the possession by that Authority of a hospital for infectious diseases, and of means of disinfection; together with the adoption of the Infectious Disease (Notification) Act, 1889; and, in some districts, of special regulations under section 125 of the Public Health Act, 1875. Above all, efficiency involves such administrative arrangements as shall ensure the regular and systematic inspection and supervision of shipping for general sanitary purposes, as well as for the control of disease on board. In a second third of the Port Sanitary Districts the administration was found in these respects to be lax and inefficient; in some, indeed, the "miserable pittances" that were paid to the sanitary officers—and this notwithstanding the protests of the Board—seem, as it were, to have been contrived so as to encourage, if not to suggest, the neglect which was found to prevail. Between these two extremes lie the remaining third of the Port Districts.

But, fortunately, the highest efficiency was as a rule found in our most important and most frequented ports. Some, indeed, were ascertained to stand pre-eminent in this respect, and as regards others, where some of the permanent establishments were too incomplete for them to be included within such terms of commendation, much that was defective was largely compensated for by the excellence of the work of the sanitary officials.

I have thus far referred more especially to the general sanitary work in our ports; but it is necessary to speak more particularly of the administration which, during a period of emergency, was carried out under the Cholera Orders issued by the Board. For the purposes of cholera some means of hospital isolation was from the first found in 44 out of the 60 ports, and in 9 others it was provided after the inspector's visit. Ambulance boats were available in a number of the more important ports; provision existed in the great majority of the ports for the destruction by

burning, or the disinfection, of clothing, &c.; and, with but few exceptions, some arrangements had been made as to the emptying of water-tanks on board ship, the provision of a proper water supply, and the pumping of bilges. The arrangements for the medical inspection of vessels and of persons, under the Board's Orders, were found to be satisfactory in all but five port districts; and it is only right to say that in certain of them, notably, the ports of London, River Tyne, Hull and Goole, Southampton, Weymouth, Plymouth, Bristol, Cardiff, Barry-and-Cadoxton, Swansea, and Liverpool, the arrangements were not only highly satisfactory in themselves, but they were carried out with a devotion to duty on the part of many of the Medical Officers of Health, such as must be regarded as having largely contributed to the marked success with which imported cholera was controlled at nearly all English ports during 1892 and 1893.

The proportion of riparian districts, which it had not been found necessary to form into Port Sanitary Districts, and in which satisfactory arrangements were found for the prevention of cholera, was less than in the case of the port districts; but the risk of cholera importation was, as regards most of them, much less than in the case of the properly constituted port districts.

'There remain a number of districts, the authorities of which were found not to have appreciated the responsibilities devolving upon them; and in some instances it required no small amount of stimulus to induce them even temporarily to adopt measures necessary to the performance of their statutory duties; and this even in the face of a European cholera prevalence.

But, speaking generally, Dr. Barry is able to report that, consequent on the emergency Survey which had been carried out in the summer of 1892, the majority of our port and riparian districts were found on inspection in 1893–94, to be fairly well organised, so far as action under the Cholera Orders is concerned. And it is satisfactory to note that in a number of instances the comparative efficiency which existed at the time of the visits paid under the more recent Survey underwent a further distinct improvement as the result of the inspection then carried out.

Indeed, the knowledge that the Survey was in progress, together with the influence of the Board's Inspectors when in personal relation and conference with the Authorities during their visits to the coast districts concerned, conduced in no small measure to secure the primary result which was aimed at, namely, the prevention of cholera. And, it may confidently be anticipated that as regards port sanitary administration generally much useful work was initiated, as the result of the Survey, which will have a permanent effect in securing the maintenance of a higher standard of health amongst the crews coming into

our ports, and in preventing the spread of sea-borne disease within the jurisdiction of our port and inland sanitary districts.

I have the honour to be,

Sir,

Your obedient Servant,

R. THORNE THORNE.

September 1895.

APPENDICES.

Report on the Board's Sanitary Survey of the Coast Line of England and Wales, 1893–94; by Dr. Barry.

In consequence of the rapid diffusion of cholera throughout Russia in the Summer of 1892, an emergency survey of the chief English Ports and Riparian Sanitary Districts was instituted by the Board in July of that year. The objects of this survey were to ascertain: (*a*) the state of preparedness of the Authorities of maritime districts to deal with ship-borne cholera; and (*b*) to advise these Authorities as to the action necessary to be taken to carry out the Board's Cholera Orders. This emergency survey, which was completed by the end of October, was entrusted to Dr. Parsons, Assistant Medical Officer, and to Dr. Bulstrode, Dr. Copeman, Dr. Fletcher, Mr. T. W. Thompson, Dr. Theodore Thomson and myself, Inspectors of the Medical Department, and to Dr. Downes, of the Poor Law Medical Department, whose services were temporarily employed to this end. A summary of the results of this survey has already been published in the Medical Officers' Supplement to the Twenty-second Annual Report of the Local Government Board for 1892–93, pp. 237 to 325.

In consequence of the unsatisfactory character of the then current arrangements in many of the districts visited, and in view of the continued prevalence of cholera in Europe, it was considered advisable that a more detailed and deliberate survey of the whole coast line should be undertaken early in 1893. In order to allow this duty to be carried out by the permanent members of the Medical Staff, the services of four temporary medical inspectors were employed in carrying out a certain amount of the routine work of the Department. Early in March, Dr. Bulstrode, Dr. Copeman, Dr. Reece, Mr. T. W. Thompson, and Dr. Theodore Thomson were told off for survey work under my general supervision. At a later date Dr. Bruce Low was added to the Survey Staff.

For the purposes of this survey certain sections of the coast line were allotted to each Inspector, he being directed to make a detailed inquiry with respect to the general administration of the several Port Sanitary Districts, and of those Riparian Sanitary Districts (Urban and Rural) having shipping trade of any extent, and contained within the sections under his charge. This detailed survey embraced all the Port Sanitary Districts, 60 in number, and some 60 to 70 Riparian Sanitary Districts having shipping trade. The survey of the Port Sanitary Districts was practically completed during the first half of 1893, but the inspection of the Riparian Sanitary Districts was continued from time to time, as the engagements of the Inspectors allowed, until the end of 1894.

Before proceeding to report on the results of the survey it will be of advantage to give some account in general terms of the several Authorities who have to deal with shipping under the Public Health Acts and the Board's Cholera Orders. These comprise (*a.*) Customs, (*b.*) Coast-guard, (*c.*) Port Sanitary Authorities, (*d.*) Riparian Sanitary Authorities other than Ports.

(*a.*) *Customs.*—The duties of the Customs Authorities are primarily connected with the guarding of the revenue, but in addition certain duties connected with the protection of the public health have from time to time been entrusted to them. For revenue purposes the whole coast-line of England and Wales has been divided into Customs Ports, the boundaries of which have been defined by Treasury Warrants. The limits of these Ports, which, including the Scilly Islands, are 69 in

number, are approximately shown in the annexed Index Map A. At each harbour in a Customs Port having much trade with foreign countries, one or more Customs Officers are stationed, whose duty it is to board every vessel from foreign, before any person thereon is allowed to land. On these Officers devolves the duty of making inquiry as to the health of the port whence the ship has come and of the health of the crew and passengers during the voyage, and at the time of arrival. In the event of a vessel having had yellow fever or plague on board, the Customs Officer has certain duties to perform under the Quarantine Act of 1825 to which further reference need not now be made. If, however, cholera should be reported the Customs Officer acts under the Board's Cholera Orders, further to be referred to in detail at a later stage of this Report. In case of other infectious sickness, it is his duty, in compliance with instructions from the Commissioners of Customs, to acquaint the Local Sanitary Authority, Port or Riparian as the case may be, of the circumstance.

(*b.*) *Coastguard.*—For coastguard purposes the whole coast line of England and Wales is (with one or two exceptions on the West Coast) included in one or other Coastguard Division in each of which there are several Coastguard Stations. In the annexed Index Map B. these Divisions, which are forty in number, are shown and the position of the several Stations approximately indicated. From this Map it will be seen that on the East and South Coast of England the Coastguard Stations are very numerous. As has already been stated, Customs Officers are stationed at all the more important harbours, but there are many harbours and coast towns having some foreign trade, and frequently a considerable amount of coastwise traffic, where no Customs Officer is stationed. At these places the duties of the Customs Officers as regards the guarding of the revenue, and incidentally of the protection of the public health, devolve upon the Coastguard under an arrangement entered into between the Commissioners of Customs and the Admiralty. At harbours where no Customs Officer is stationed, the usual procedure is for one of the Coastguards to be appointed deputy Customs Officer and to grant to him a quarantine certificate, which empowers him to put questions to masters of vessels with respect to health, and arms him with similar powers as to detention, &c. as those possessed by the Customs Officers.

(*c.*) *Port Sanitary Authorities.*—Certain of the Customs Ports, or parts of such Ports, have been from time to time constituted under Special Orders of the Local Government Board into Port Sanitary Districts. This has been especially done where more than one of the existing Sanitary Authorities abutted upon the waters of an important harbour or port. Under these Orders the great majority of the ports of England and Wales having much foreign trade have been included in one or other of the Port Sanitary Districts. At the present time there are sixty such Districts in existence, of which fifty-eight have been permanently and two (Hayle and Penzance) temporarily constituted, these last being subject to annual re-constitution. In the annexed Index Map C. the situation of each of the Port Sanitary Districts is indicated. It is to be observed that in ten only of the Customs Ports, namely Barrow, Berwick, Carlisle, Folkestone, Llanelly, Manchester, Maryport, Scarborough, Whitby, and Whitehaven, no Port Sanitary Districts have been formed. Of the sixty Port Sanitary Districts, the administration is vested in a single Local Authority in thirty-four instances. In eighteen of these, namely, Cardigan, Chepstow, Fleetwood, Hayle, Ipswich, London, Poole, Portsmouth, Preston, Sandwich, Southampton, Sunderland, Teignmouth, Yarmouth, Grimsby, Isles of Scilly, New-

Diagram Map shewing the extent generally of the Customs Ports of England & Wales.
SCOTLAND
IRELAND
I. of MAN
Berwick
North Shields
Newcastle
South Shields
Sunderland
Hartlepool
Middlesbrough
Whitby
Scarborough
Hull
Grimsby
Boston
Lynn
Yarmouth
Lowestoft
Ipswich
Harwich
Colchester
London
Ramsgate
Dover
Folkestone
Rye
Newhaven
Shoreham
Littlehampton
Chichester
Portsmouth
Southampton
Cowes
Poole
Weymouth
Exeter
Teignmouth
Dartmouth
Fowey
Falmouth
Penzance
Scilly Islands
Padstow
Barnstaple
Bridgewater
Cardiff
Swansea
Milford
Cardigan
Aberystwith
Carnarvon
Beaumaris
Liverpool
Preston
Fleetwood
Lancaster
Barrow
Whitehaven
Workington
Maryport
Carlisle
NORTHUMBERLAND
DURHAM
CUMBERLAND
WESTMORLAND
NORTH RIDING
EAST RIDING
WEST RIDING
YORK
LANCASHIRE
CHESHIRE
DERBY
NOTTS
LINCOLN
STAFFORD
LEICESTER
RUTLAND
NORFOLK
SUFFOLK
CAMBS
HUNTS
NORTHAMPTON
WARWICK
OXFORD
BUCKS
BEDFORD
HERTS
ESSEX
MIDDLESEX
LONDON
BERKS
SURREY
KENT
SUSSEX
HANTS
WILTS
GLOUCESTER
MONMOUTH
GLAMORGAN
BRECKNOCK
RADNOR
HEREFORD
MONTGOMERY
SALOP
CARDIGAN
CARMARTHEN
PEMBROKE
SOMERSET
DEVON
CORNWALL
DORSET
ANGLESEY
DENBIGH
FLINT
MERIONETH
CARNARVON
Wisbech
Manchester
Chester
Exmouth
Plymouth
Truro
Newport
Gloucester
Bristol
Tenby
Llanelly
Aberystwith
Carmarthen
Pembroke
Brecknock
Monmouth
Glamorgan
Somerset
Devon
Cornwall
Dorset
Hants
Wilts
Berks
Middlesex
London
Surrey
Kent
Sussex
Essex
Herts
Bucks
Oxford
Northampton
Warwick
Leicester
Rutland
Notts
Derby
Lincoln
Norfolk
Suffolk
Cambs
Hunts
Bedford
Yorkshire
Durham
Northumberland
Cumberland
Westmorland
Lancashire
Cheshire
Anglesey
Denbigh
Flint
Merioneth
Carnarvon
Montgomery
Salop
Stafford
Radnor
Hereford
Cardigan

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haven, and Wells, the whole cost devolves on the Sanitary Authority charged with the administration of the District, notwithstanding the fact that each of these Port Districts (with the exception of the four last-named) comprises portions of one or more Riparian Districts. In the following sixteen Districts, namely Barry and Cadoxton, Bristol, Cardiff, Carnarvon, Colchester, Faversham, Gloucester, Kings Lynn, Lancaster, Liverpool, Lowestoft, Maldon, Newport, Penzance, Rochester, and Wisbech, the several Riparian Authorities abutting on the Districts contribute to the expenses of the administration, but are not represented on the Authority. (*See* specimen Order for such district, Addendum C. No. 5.) In the remaining twenty-six Port Sanitary Districts Joint Boards have been constituted composed of representatives of the several Rural and Urban Sanitary Authorities whose districts abut upon the waters of the harbour or port and who contribute to the expenses of the administration. (*See* specimen Order for such district, Addendum C. No. 6.) The following are the twenty-six Districts in question:—Barnstaple, Beaumaris, Boston, Bridgewater, Chester, Cowes, Dartmouth and Totnes, Deal, Exeter, Falmouth and Truro, Fowey, Hartlepool, Harwich, Hull and Goole, Kingsbridge and Salcombe, Littlehampton, Milford, New Shoreham, Padstow, Plymouth, Swansea, River Blyth, River Tees, River Tyne, Weymouth, and Workington.

From the specimen Orders given in the Addenda to this Report it will be observed that the Port Sanitary Authorities are entrusted with the full powers and responsibilities of a Sanitary Authority so far as these are applicable to ships and to persons on ship board, within the limits of their Districts.

(*d*). *Riparian Sanitary Authorities.*—With respect to those portions of the coast line not included within any Port Sanitary District, the Urban and Rural Local Sanitary Authorities are, under the Public Health Act, 1875, and the Public Health (Ships) Act, 1885, endowed with responsibilities similar to those of Port Sanitary Authorities, as regards vessels in waters abutting upon their respective districts. At the present time there are 110 Urban Sanitary Authorities whose districts are riparian, and 114 Rural Sanitary Districts of which one or more Parishes are Riparian.

The names of the several Port Sanitary Districts, Urban Sanitary Districts, and Parishes of Rural Sanitary Districts, riparian to the several Customs Ports of England and Wales are given in their topographical order in Addendum B., and are also illustrated graphically in Diagram Maps I. to XXI. annexed to the separate divisions to this Report.

The duties of Riparian Sanitary Authorities, whether Port, Urban, or Rural may be classified into two groups.

(1). *Duties under the Public Health Acts*, which comprise the ordinary duties of a Sanitary Authority with respect to vessels and the population on shipboard (vessels being regarded as houses) for the preservation of health, and for the limitation of the spread of indigenous infectious disease, and

(2). *Duties under the Cholera Orders*, under which the Riparian Authorities in concert with the Revenue Authorities, whether Customs or Coastguard, form the first line of defence against the introduction and spread of cholera.

METHOD OF SURVEY.

The instructions given to the Inspectors employed in the survey of Ports and Riparian Districts, were uniform in character. Each

Inspector before proceeding to a District was supplied with a set of forms based on forms drawn up by Dr. Blaxall in 1885 (see Addendum C. No. 1.), containing definite queries as to the several matters to which his attention was to be directed.

These matters may be grouped as follows:—

a. Constitution, limits of jurisdiction, etc., of Authority.
b. Amount and character of shipping trade.
c. Means of communication (rail or water) between port and inland districts.
d. Character of administration as regards routine inspection of vessels and arrangements for detecting and limiting the spread of infectious diseases generally.
e. Efficiency of special arrangements made to carry out the Board's Cholera Orders.

He was also furnished with Ordnance Maps and Admiralty Charts of the districts to be surveyed. Before commencing the actual inspection, a meeting of the Sanitary Authority was called to which the local Officer of Customs was invited and at which the Inspector attended. At this meeting the Inspector explained the objects of the proposed survey, obtained information on such of the matters mentioned above as did not require personal inspection, and conferred with the Authority generally on the method of dealing with cholera in the event of its appearance. He then, in company with the officials and any members of the Sanitary Authority who might wish to be present, made a detailed inspection of the district, and tested the knowledge of the officials on the subjects of their special and routine duties. The Inspector then drew up a detailed report together with a draft series of recommendations as to matters requiring amendment, and subsequently conferred with me personally, when formal recommendations as regards the more important matters found to be defective at the time of the survey were drawn up and printed. A final conference with the Sanitary Authority was then arranged, at which the Inspector attended, and made a statement as to the general results of his inspection, drawing attention to the defects observed, and advising the Sanitary Authority as to the remedies to be applied. Before leaving he gave the Authority a copy of the formal recommendations already referred to, and requested them to communicate with the Board as to the action taken thereon.

RESULTS OF THE SURVEY.

In immediate sequence to this Report I have the honour to submit detailed reports with regard to each of the sixty Port Sanitary Districts inspected, and also with respect to thirty-seven Riparian Sanitary Districts (thirty-one Urban and six Rural). The Riparian reports include all the more important districts which have not been constituted Port Sanitary Districts, together with a certain number of districts having but little shipping trade, which are included as examples only.

For convenience of reference these reports are grouped in twenty-one sections under their respective Customs Ports and are arranged in topographical order, commencing at Berwick in the north-east of England, following the coast line round England and Wales, and ending at Carlisle in the north-west of the country. I have prefaced each section with a short statement giving the boundaries of each of the Customs Ports, together with notes as to the Riparian Sanitary Districts or parts of Districts comprised within their boundaries. Each section is further

illustrated by means of a Diagram Map showing the boundaries of the Customs Ports and of the several Riparian Sanitary Districts, whether Port, Urban or Rural, contained in each at the commencement of 1894.* As regards the Rural Riparian Districts, each Parish that is Riparian has been indicated in the maps. The sectional divisions of the coast line given in the report are quite arbitrary and are simply governed by the size of the maps. It may be noted that the maps are all drawn to one uniform scale of eight miles to the inch.

Each Inspector's report contains (*a.*) the chief facts reported with respect to the points noted for inspection as regards the administration of the several authorities at the date of inspection; (*b.*) a list of the matters with regard to which formal recommendations were made at the final conference; and (*c.*) there are added when practicable, notes as to the action taken by the Sanitary Authorities subsequent to the Inspector's visits.

For full details as to the matters noted above the reader must refer to the reports themselves. In order, however, to render some of the broad results of the survey apparent I propose to summarise in tabular form, as regard Port, Urban Riparian, and Rural Riparian Sanitary Districts respectively, the chief facts observed with respect to the following subjects:—

(1.) Amount and character of shipping trade.
(2.) General sanitary administration under the Public Health Acts.
(3.) Special action under the Board's Cholera Orders.

(1.) AMOUNT AND CHARACTER OF SHIPPING TRADE.

In Table I. is given, as regards each Port Sanitary District, a statement as to (*a*) the amount of shipping inwards during 1892, both from foreign (cols. 3–8), and coastwise (cols. 9–14); (*b*) the ports with which the district has most trade or most frequent communication (cols. 15 and 16); (*c*) the character of the trade inwards (cols. 17 and 18); and (*d*) the nature and extent of the passenger traffic (col. 19). Tables II. and III. give similar information as regards Urban Riparian and Rural Riparian Sanitary Districts respectively. These Tables are drawn up from information furnished in each instance by the local Officers of Customs in charge of the several districts. From the Tables it will be observed that the extent of the shipping trade varies enormously in the different districts; that in 1892 all the Port Sanitary Districts, with the exception of Chepstow, had more or less trade with foreign; that, whilst the great majority of Riparian Districts had little or no trade with foreign, the two Urban Riparian Districts of Dover and Folkestone each had very large foreign passenger traffic; and that in 1892 fifty or more vessels from foreign entered each of the Urban Riparian Districts of Maryport, Barrow-in-Furness, Llanelly, Amble, Berwick-upon-Tweed, and Seaham Harbour. The districts having the most extensive passenger traffic from foreign are as follows:—River Tyne, Hartlepool, River Tees, Hull and Goole, Grimsby, Harwich, London, Newhaven, Southampton, Plymouth, and Liverpool Port Sanitary Districts, and Dover and Folkestone Urban Riparian Sanitary Districts.

* As many of the maps were in an advanced stage of preparation in 1894 it has not been found possible to take note of the numerous changes of boundaries which have taken place in consequence of the passing of the Local Government Act, 1894.

TABLE I.—Amount and Character of the Shipping Trade from Foreign and

Number.	Name of Port Sanitary District.	Amount of Shipping Inwards during 1892.											
		Foreign.						*Coastwise.*					
		Steamers.		Sailing.		Total.		*Steamers.*		*Sailing.*		*Total.*	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*
1	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1	River Blyth	663	478,467	139	33,329	802	511,796	*921*	*574,137*	*362*	*71,354*	*1,283*	*645,491*
2	River Tyne	3,626	2,630,315	899	284,592	4,525	2,914,907	*5,592*	*3,106,873*	*2,812*	*40,974*	*8,404*	*3,547,847*
3	Sunderland	928	630,098	390	94,742	1,318	724,840	*2,622*	*1,145,648*	*2,063*	*255,090*	*4,685*	*1,400,738*
4	Hartlepool	629	426,429	581	150,557	1,210	576,986	*659*	*265,909*	*987*	*123,299*	*2,401**	*401,510**
5	River Tees	1,023	677,879	113	25,321	1,136	703,200	*Not returned separately.*				*1,931*	*535,017*
6	Hull and Goole (*a*) Hull	2,907	1,947,493	599	275,431	3,506	2,222,929	*2,447*	*526,072*	*5,144*	*331,278*	*7,591*	*857,350*
	Hull and Goole (*b*) Goole	1,165	412,928	137	47,363	1,302	460,291	*983*	*295,839*	*498*	*35,617*	*1,481*	*331,456*
7	Grimsby	1,267	617,470	431	122,803	1,698	740,273	*147*	*68,302*	*159*	*29,437*	*19,809**	*1,267,919**

* These totals include fishing

COASTWISE of the several PORT SANITARY DISTRICTS of ENGLAND and WALES.

Ports with which District has most Trade, or most frequent Communication.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	19.
Hamburg, Antwerp, Rotterdam, Amsterdam, Havre, Rouen.	*River Tyne, Hartlepool, Sunderland, London, Portsmouth, Plymouth, Dartmouth. Fowey.*	Wood goods; many vessels arrive in ballast.	*China clay, blasting powder, potatoes.*	Occasional only.
The Baltic, Germany, Denmark, Norway and Sweden.	*London, Hull, Leith, Aberdeen.*	Timber (pit props) and ore.	*General merchandise and potatoes.*	Extensive with Norway, Sweden, Hamburg, Antwerp, and Rotterdam. *Passenger boats from London and Leith twice a week. From Aberdeen once a week.*
Hamburg, Rotterdam, Antwerp, Ostend, Rouen.	*London, Southampton, Portsmouth.*	Corn, iron ore, timber, esparto grass, and china-clay. About two-thirds of vessels in ballast.	*About four-fifths vessels in ballast. Some corn, stone.*	No systematic passenger traffic from foreign. *One passenger steamer from London weekly.*
Hamburg, Gottenburg, and Baltic Ports.	*London and other South of England Ports, Belfast.*	General cargoes, timber and iron ore. Rags from Hamburg. Ice.	*Chiefly in ballast. Some general cargoes.*	Fair foreign passenger traffic, and usually large transmigrant traffic with Hamburg. *One steamer weekly with Belfast.*
Bilbao, Hamburg, Rotterdam, The Baltic.	*London and Channel Ports, Leith, Grangemouth, Dundee, Aberdeen.*	Iron ore, wood pulp.	*General cargoes, old iron.*	No systematic passenger traffic.
Rotterdam, Amsterdam, Antwerp, Hamburg, Copenhagen, Gottenburg, Christiania.	*London, Leith, Dundee, Aberdeen.*	General merchandise, ice, corn, hides, wool, cotton, butter, sugar, and fruit. Large rag trade.	*Spirits, iron, general merchandise and rags.*	Considerable passenger traffic with Hamburg, Rotterdam, Antwerp, Amsterdam, Gottenburg, Bergen, Christiania, Riga, Cronstadt, St. Petersburg, Dantzig, and Rouen. A large number of transmigrants (about 60,000 per annum), mostly en route for America, from Norway, Sweden, Russia, Denmark, and Germany. Also some immigrants from Rottedam for Manchester and London *Also considerable passenger traffic with Grimsby, London, Lynn, Boston, Newcastle, Leith, Dundee, Grangemouth, Aberdeen, Yarmouth, Ipswich, Plymouth, Bristol, and Cardiff.*
Hamburg, Antwerp, Rotterdam, Dieppe, Gottenburg, Malinö, Esbjerg.	*Hull, London, Channel Ports, Aberdeen.*	Rags, timber, ice, butter, eggs, fruit, second-hand furniture, compressed straw, cotton waste, yeast, general merchandise.	*General merchandise, granite.*	Extensive passenger trade with Hamburg, Antwerp, Rotterdam, Gottenburg, Malino, and Esbjerg (22,800 in 1892, exclusive of immigrants and transmigrants), extensive immigrant and transmigrant traffic (about 20,000 annually), chiefly Russian Jews en route for America via Liverpool and Glasgow. Also German Jews and some Swedish and Norwegian transmigrants. *Considerable coastwise passenger traffic with Hull daily. London twice a week.*

vessels entering the port.

TABLE I.—

Number.	Name of Port Sanitary District.	Amount of Shipping Inwards during 1892.											
		Foreign.						*Coastwise.*					
		Steamers.		Sailing.		Total.		*Steamers.*		*Sailing.*		*Total.*	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
8	Boston	138	63,543	90	25,260	228	88,803	*150*	*12,322*	*212*	*11,611*	*362*	*23,933*
9	Wisbech	48	23,751	56	15,784	104	39,535	*135*	*10,311*	*48*	*2,634*	*183*	*12,945*
10	King's Lynn	207	113,731	76	17,072	283	130,803	*312*	*47,983*	*256*	*18,999*	*712**	*61,982**
11	Wells	—	—	4	395	4	395	—	—	*25*	*1,685*	*25*	*1,685*
12	Yarmouth	33	14,276	219	34,254	252	48,530	*Not returned separately*				*886*	*107,747*
13	Lowestoft	36	16,815	244	16,892	280	33,707	*Not returned separately*				*501*	*56,206*
14	Ipswich	37	19,531	155	21,350	192	41,881	*1,601*	*121,061*	*1,818*	*103,068*	*3,419*	*224,129*
15	Harwich	1,163	646,848	31	5,822	1,194	652,670	*Not returned separately*				*2,500*	*176,809*
16	Colchester	7	642	46	3,640	53	4,282	*423*	*55,734*	*1,862*	*86,289*	*2,285*	*142,023*
17	Maldon	1	723	26	3,121	27	3,844	*6*	*490*	*553*	*25,244*	*559*	*25,734*
18	London	7,683	6,782,299	2,728	1,081,370	10,411	7,863,669	*10,087*	*4,122,080*	*32,901*	*1,575,618*	*42,988*	*5,697,698*
19	Rochester	65	21,541	248	43,942	313	65,483	*935*	*260,423*	*6,947*	*318,992*	*7,882*	*579,415*
20	Faversham	2	153	20	3,337	22	3,490	*13*	*1,703*	*2,946*	*125,959*	*2,959*	*127,662*

* These totals include fishing

continued.

Ports with which District has most Trade, or most frequent Communication.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	19.
Hamburg, Ghent, Antwerp, Baltic Ports.	*London, Hull, Carnarvon, River Tyne.*	General goods, timber, ice.	*Iron ore, granite, agricultural produce.*	None.
Ports in Europe between White Sea and River Eider.	*London, Northern Coal Ports.*	Wood goods, oats, phosphate rock, and oilcake.	*Coal*	None.
Hamburg, Antwerp, Harburg, Bremen, Riga, Koenigsberg.	*Newcastle, Hull.*	General goods, sugar, fruit, occasionally rags from Belgium.	*General goods, coal.*	Very little.
St. Petersburg, Riga.	*Northern Coal Ports.*	General goods	*Coal*	None.
Baltic Ports	*London and Northern Coal Ports.*	Timber, ice, salt, grain, manures, moss-litter.	*Coal*	No regular passenger traffic.
Norway and Sweden, Riga, Memel, Yminden, Ostend.	*London and Northern Coal Ports.*	Timber, ice, locust beans, corn, cotton, seed, fish.	*Coal, granite*	None.
Antwerp, Groningen, Rotterdam.	*London and Northern Coal Ports.*	Grain, phosphate of lime, wood, oil, seed, cake, stone, and general merchandise.	*Grain, coal, linseed, oilcake, granite, cement.*	Small passenger trade.
Hamburg, Antwerp, Rotterdam, Esbjerg.	*London, Newcastle, Sunderland, Cardiff.*	General merchandise, fruit, vegetables, eggs, horses.	*Coal, timber, manure.*	Considerable passenger traffic with Antwerp, Rotterdam, Sweden and Norway, also some immigrants and transmigrants.
Ostend, Antwerp, Cherbourg.	*London, Rochester, Harwich.*	Wood, grain, oysters.	*Coal, stone*	None, except on yachts.
Antwerp, Cherbourg.	*London, Rochester, Harwich, Faversham, River Tyne, River Tees, Hartlepool, Sunderland.*	Timber, grain, granite.	*Grain, coal, manure.*	None.
All ports of the world having trade with Britain.	*All ports in the kingdom.*	General, including all specified (Customs).		Very large with all parts.
Dunkirk, Cherbourg, Calais, Elsinore, Stockholm, Gothenburg, Kalmar, Kotka, Abo, Wasa, Dantzig, Christiania, Drammen, Friedrichstadt.	*London, Newcastle, Seaham Harbour, Sunderland, Hartlepool, Chester, Swansea, Cardiff.*	Wood, corn, hemp, tar, straw, oil, empty casks, and broken stone.	*Coal, coke, corn, china, clay, bricks, and broken stone.*	No foreign passenger traffic. *A small steamer runs between Rochester and Southend during the summer months.*
Christiania and Baltic ports.	*London, Rochester, Newcastle, Pembrey.*	Timber, slates, granite.	*Coal, coke, timber, grain.*	None.

vessels entering the port.

TABLE I.—

Number.	Name of Port Sanitary District.	Amount of Shipping Inwards during 1892.											
		Foreign.						Coastwise.					
		Steamers.		Sailing.		Total.		Steamers.		Sailing.		Total.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
21	SANDWICH -	—	—	5	421	5	421	—	—	130	8,436	130	8,436
22	DEAL - -	56	5,173	—	—	56	5,173	223	36,102	32	633	255	36,740
23	NEWHAVEN -	Not returned separately.				1,386	307,444	Not returned separately.				1,105	85,878
24	NEW SHOREHAM	32	8,521	243	20,159	285	28,680	147	48,270	159	18,470	306	66,740
25	LITTLEHAMPTON	Not returned separately				35	6,280	Not returned separately				351	242,881
26	PORTSMOUTH -	18	12,491	269	23,132	287	35,623	9,475	970,328	4,851	490,707	14,326	1,461,035
27	SOUTHAMPTON -	1,956	1,775,393	56	30,748	2,130*	1,811,804*	5,126	717,334	3,197	123,184	8,432*	844,875*
28	COWES - -	3	459	16	2,660	19	3,119	2,827	272,687	2,912	62,817	5,239	33,550
29	POOLE - -	19	?	147	?	166	?	62	?	744	?	806	?
30	WEYMOUTH -	465	103,565	56	4,430	521	107,995	277	56,745	327	26,161	604	82,906

* These totals include fishing

continued.

Ports with which District has most Trade, or most frequent Communications.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	19.
Cherbourg, Guernsey.	*London, Sunderland, Newcastle.*	Granite,	*General goods, coal.*	None.
Boulogne	*London, Ramsgate, Dover.*	- - -	*General goods*	*Extensive excursion traffic. Steam excursion boats carrying passengers between Deal and Ramsgate, Dover and Boulogne.*
Dieppe, Honfleur, Caen, St. Nazaire, Baltic Ports, Channel Islands.	*Hartlepool, Sunderland, Cardiff.*	Provisions, manufactured goods, rape.	*Coal*	Extensive passenger traffic with Dieppe; to a less extent wfth St. Nazaire and Honfleur. Immigrants and transmigrants also arrive at this port.
Guernsey, Havre, Amsterdam, St. Malo, Cherbourg, Barfleur, Cap Levi, St. Brienne, Christiania, Gefle, Friedrichstadt, Norkopping, Wyburg.	*Newcastle, Hartlepool, Sunderland, Cardiff, Swansea, Goole.*	Granite, wood, slates, sugar, oats, wheat, moss litter, potatoes, ice, barley, glass, oysters, empty casks.	*Coal*	No foreign passenger traffic. *Passengers in coasting steamers from Bournemouth and Isle of Wight to Brighton and Worthing.*
Baltic ports	*Newcastle, Seaham, Sunderland.*	Timber, eggs, grain, butter.	*Coal*	No passenger traffic.
Amsterdam, Baltic ports, Barfleur, Cherbourg, Rotterdam, Channel Islands.	*Glasgow, Cardiff, Plymouth, London, Dublin.*	Potatoes, timber, grain, refined sugar, moss litter, stone, onions.	*Coal, stone, iron, cement, petroleum, soda, cattle.*	No passengers from foreign except officers and men belonging to the Army and the Royal Navy, and a few persons who come from France during the summer months to sell onions. *Very large passenger traffic with Isle of Wight and Southampton.*
Channel Islands, Havre, Cherbourg, Honfleur, Bremen, Rotterdam.	*Tyne ports, Cardiff.*	Grain, butter, sugar, potatoes, eggs, wool, leather, rags.	*Coal*	Large passenger traffic with Channel Islands. Havre, Cherbourg, Honfleur, Bordeaux, Bremen, Hamburg, Antwerp, Rotterdam, Java, Brazil, Argentine, Colon, and West Indian ports, Cape of Good Hope, New York, China, Australia, *London, Glasgow, Cork, and Plymouth.* Transmigrants from Bremen and Hamburg for Cape of Good Hope.
Guernsey and Scandinavian timber ports.	*Southampton, Portsmouth, Goole, North-eastern coal ports, Poole, Swanage, London.*	Wood, sand, stone, furniture, potatoes.	*Coal*	No foreign passenger traffic. *Several steamers daily to and from Southampton and Portsmouth. Occasional passenger steamers from Poole, Bournemouth, and Swanage.*
Norway, Sweden, Russia, White Sea and Baltic, France, Guernsey.	*North-eastern coal ports, London, Plymouth, Newport, Glasgow.*	Timber, grain, oilcake, moss litter, granite.	*Coal, oilcake, grain, limestone, cement, timber, petroleum, general goods.*	—
Baltic ports	*North-eastern coal ports, Channel Islands.*	General cargoes, timber, grain, potatoes; many vessels enter in ballast.	*Coal*	Daily passenger traffic with Channel Islands.

vessels entering the port.

TABLE I.—

Number.	Name of Port Sanitary District.	Amount of Shipping Inwards during 1892.											
		Foreign.						Coastwise.					
		Steamers.		Sailing.		Total.		Steamers.		Sailing.		Total.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
31	EXETER - -	6	2,125	91	17,512	97	19,637	162	16,373	712	43,406	874	59,779
32	TEIGNMOUTH -	5	1,167	34	4,584	39	5,751	3	540	380	39,063	383	39,603
33	DARTMOUTH AND TOTNES.	748	630,224	74	7,133	822	637,357	256	77,077	158	9,832	414	86,909
34	KINGSBRIDGE AND SALCOMBE.	2	1,712	6	781	9*	2,540*	232	11,053	515	22,348	770*	34,104*
35	PLYMOUTH -	225	111,294	444	82,816	669	194,110	1,970	164,834	1,247	464,527	3,217	629,361
		[These figures with regard to shipping at Plymouth do not include vessels from foreign landing passengers and mails, or any vessels putting in for shelter, provisions, wind bound, or in distress.]											
36	FOWEY:—												
	(*a*) Fowey -	36	10,147	49	15,985	85	26,132	112	23,810	487	57,443	599	81,253
	(*b*) Charlestown	—	—	51	6,923	51	6,923	11	239	601	49,540	612	49,779
	(*c*) Looe - -	—	—	5	476	5	476	37	2,685	347	14,422	384	17,107
	(*d*) Par - -	—	—	10	1,642	10	1,642	—	—	260	23,973	260	23,973
	(*e*) Polkerris -	—	—	—	—	—	—	—	—	1	75	1	75
37	FALMOUTH AND TRURO.	Not returned separately.				1,380	981,400	Not returned separately.				5,550	345,000
38	PENZANCE -	4	819		,508	43*	8,512*	515	96,552	362	28,280	877	125,432
39	ISLES OF SCILLY	7	6,365		1,952	17*	8,540*	193	11,094	33	2,179	226	13,273

* These totals include fishing

continued.

Ports with which District has most Trade, or most frequent Communication.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	19.
Ports of Norway and Sweden.	*Sunderland and Tyne ports.*	Timber, petroleum, salt cod fish, manure, oats, sugar, glass, pyrites, wine, brandy, currants, zinc, and iron ore.	*Coal, limestone, cement, grain, and oilcake.*	*Pleasure steamers run frequently during the summer months to other places on South coast of England.*
Scandinavian ports.	*North-eastern coal ports.*	Wood pulp	*Coal*	None.
Black Sea, Sea of Azov, Mediterranean, Baltic, Hamburg, Antwerp, Norway, and Sweden.	*North-eastern coal ports.*	No imports, but a large number of vessels call here for broken coal.	*Coal*	Up to the middle of 1891 several vessels used to call at Dartmouth for the purpose of shipping and landing passengers. At present time only the mails for the Falkland Islands and West Indies are shipped here. *Dartmouth is a great yachting centre.*
Mediterranean	*Goole, Plymouth, Hull, Sunderland, Newcastle.*	General cargoes	*Coal, manure, grain, stone.*	No foreign passenger traffic. *Two steamers twice a week from Plymouth with passengers.*
French Channel Ports, Baltic, Hamburg, Antwerp, Mediterranean.	*North-eastern coal ports, Bristol Channel, Glasgow, Ireland, London, Southampton, Salcombe.*	Grain, timber, valonia, hemp, tar, sugar, phosphates, pyrites, guano, cattle, hides, ice, petroleum.	*Coal, potatoes, cement.*	About 400 mails call at Plymouth during the year, including line communication with New Zealand, Cape, Rio Janeiro, Teneriffe, Eastern and Mediterranean Ports. Portugal, West Indies, and India. *Passenger steamers twice a week to Salcombe.*
Havre, Antwerp, Dordt, Rouen, Caen, Dunkirk, Cadiz, Sundswall, Lisbon, Geneva, Brest, Cherbourg.	*Cardiff, Newport, Swansea, Runcorn, Liverpool, Newcastle, Leith, Plymouth, London.*	Grain, timber, potatoes, salt, phosphates.	*Manure, coal, grain, iron, bricks.*	*Occasional passenger traffic with Plymouth and Falmouth.*
Ports of North and South America, West Indies, Black Sea, Mediteranean, Baltic, Hamburg, Antwerp.	*Coal ports of England, Wales, and Scotland.*	Timber, corn, phosphates, explosives, potatoes, and onions.	*Coal*	An occasional passenger landed from vessels calling for orders.
Ports of France, Norway, Sweden, and Russia.	*Bristol, London, Plymouth, Torquay, Isles of Scilly,*	Timber, ice, potatoes, grain, salt.	*Coal, manure, stone, flowers.*	*Passenger steamers between Penzance and Scilly Isles about three times a week, also some passenger traffic with London and Bristol.*
Fécamp, Boulogne, Bordeaux, Nantes, Havre.	*Penzance and Ports of South Wales.*	- - -	*General cargoes and coal.*	*A steamer from Penzance three times a week.* During the fishing season a large number of fishermen frequent the islands.

vessels entering the port.

TABLE I.—

Number.	Name of Port Sanitary District.	Amount of Shipping Inwards during 1892.											
		Foreign.						Coastwise.					
		Steamers.		Sailing.		Total.		*Steamers.*		*Sailing.*		*Total.*	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
40	HAYLE - -	1	38	5	815	6	853	*406*	*61,591*	*262*	*21,411*	*668*	*83,002*
41	PADSTOW - -	1	455	6	773	7	1,228	*43*	*3,073*	*385*	*25,347*	*428*	*28,420*
42	BARNSTAPLE -	1	913	20	6,668	21	7,581	*101*	*5,307*	*2,104*	*109,719*	*2,205*	*115,026*
43	BRIDGEWATER -	4	1,819	61	12,996	65	14,815	*475*	*32,666*	*1,991*	*115,125*	*2,466*	*147,791*
44	BRISTOL - -	595	566,093	237	102,397	832	668,495	*Not returned separately.*				*8,308*	*744,894*
45	GLOUCESTER -	160	148,379	160	95,751	320	244,130	*96*	*9,393*	*1,283*	*75,385*	*1,379*	*84,778*
46	CHEPSTOW -	—	—	—	—	—	—	—	—	*100*	*4,505*	*100*	*4,505*
47	NEWPORT - -	753	664,097	367	112,160	1,120	776,257	*3,066*	*885,742*	*4,203*	*284,731*	*7,269*	*1,170,473*
48	CARDIFF - -	2,551	2,137,951	896	410,571	3,447	2,548,522	*Not returned separately*				*8,770*	*2,532,527*
49	BARRY AND CADOXTON.	724	801,867	152	187,356	876	989,223	*Not returned separately*				*1,511*	*1,069,988*

continued.

Ports with which District has most Trade, or most frequent Communication.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	19.
Hamburg, Guernsey, Königsberg.	*Cardiff, Swansea, Newport, Porthcawl, Bristol, Liverpool, Runcorn, Greenock, Ayr, Cork, Waterford, London.*	Timber, grain, iron, potatoes, collodion.	*Coal*	None.
Ports of Norway and Sweden.	*Bristol Channel and River Mersey ports.*	Timber	*Coal, manure*	*Passengers from Bristol and Swansea by fortnightly steamers.*
Norway and Sweden.	*Liverpool, London, Dublin, Cardiff, Swansea.*	Wood, valonia, hides, oilcake.	*Manure, coal*	*Excursion steamers in summer to Clorelly and Lundy Island.*
Baltic, Hamburg, Harburg, Antwerp, Rotterdam, Havre, Rouen, Dieppe.	*Cardiff, Newport, Sydney, London, Liverpool, Cork.*	Timber, rags, hides, linseed, valonia, grain.	*Rags, coal, iron, corn.*	No regular passenger traffic.
Hamburg, Antwerp, Rotterdam.	*Bristol Channel ports, London, Hull, Irish, and Scotch ports,*	General cargoes: hides, wine, tobacco, iron, glass, timber, corn, oranges, fruit, eggs, butter, cheese, old rope, old carpets, rags, ice.	*General cargoes, rags.*	Only casual passengers from foreign and no regular immigrant or transmigrant traffic. *Considerable and regular passenger service with London and Irish and Scotch ports.*
Black Sea and Sea of Azov, Baltic, North Russia, Hamburg, North and South America.	*Bristol, Cardiff, Newport, Swansea, Llanelly, London.*	Grain, timber, sugar, sand, moss litter, general cargoes.	*Timber, coal, lime, cement, grain.*	No systematic passenger trade.
None	*Bristol*	- - -	*General cargoes.*	No passengers, except on excursion steamers.
Lorient, Bordeaux, Bilbao, Hamburg, Rotterdam, Amsterdam, Antwerp, Norway and Sweden.	*London, Southampton, Liverpool, Dartmouth, Dublin, Belfast, Cork, Waterford, Glasgow.*	Iron ore, timber, general cargoes, potatoes.	*Cattle, general goods. Most vessels enter in ballast.*	One passenger steamer each month from River Plate. No other systematic passenger traffic from foreign. *Passenger steamers weekly to Cork; fortnightly to Glasgow, Belfast, Greenock. Frequent excursion steamers to Weston-super-Mare, Lynmouth and Ilfracombe.*
Bordeaux, Havre, Rouen, Brest, Lorient, Hamburg, Antwerp, Rotterdam, Baltic, Norway and Sweden.	*Bristol, London, Liverpool, Hull.*	Grain, timber, iron ore, potatoes, fruit, general cargoes, some rags.	*General cargoes and potatoes.*	No systematic passenger traffic.
Rouen, St. Malo, Hamburg, Rotterdam, Amsterdam, Antwerp, Mediterranean.	*Liverpool, Dundee, Greenock, Dublin, Belfast, Falmouth, London.*	Timber	*Bricks and cement.*	None.

TABLE I.—

Number.	Name of Port Sanitary District.	Amount of Shipping Inwards during 1892.											
		Foreign.						Coastwise.					
		Steamers.		Sailing.		Total.		Steamers.		Sailing.		Total.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
50	SWANSEA	893	462,541	526	123,452	1,419	585,993	2,691	619,584	2,136	188,925	4,827	808,509
51	MILFORD	20	5,922	21	6,497	47*	12,760*	758	302,983	714	32,438	4,130*	591,238*
52	CARDIGAN	—	—	2	206	2	206	61	4,553	131	4,449	192	9,002
53	CARNARVON	—	—	11	3,135	11	3,135	Not returned separately.				753	60,493
54	BEAUMARIS	1	521	12	3,747	13	4,268	Not returned separately.				1,905	141,383
55	CHESTER	18	15,100	37	8,499	55	23,599	675	38,937	1,370	80,909	2,045	119,846
56	LIVERPOOL	3,664	5,586,173	895	645,952	4,559	6,232,125	10,045	2,342,914	2,737	313,325	12,782	2,656,239
57	PRESTON	12	3,483	10	4,190	22	7,673	Not returned separately.				320	28,327
58	FLEETWOOD	121	85,309	129	101,510	250	186,819	909	295,391	312	25,035	1,221	320,426
59	LANCASTER	9	2,196	27	8,227	36	10,423	Not returned separately.				129	13,307
60	WORKINGTON	2	1,129	—	—	2	1,129	Not returned separately.				1,444	176,748

* These totals include fishing

continued.

Ports with which District has most Trade or most frequent Communication.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	19.
Bilbao, St. Nazaire, Bordeaux, Huelva, Nantes, Port Nolloth, Tucacas, Engasteria, Genoa, Messida, Carloforte.	*London, Bristol, Liverpool, Glasgow, Barrow, Belfast, Hull, Tyne, Whitby and Middlesbrough.*	Iron ore, wooden goods, general merchandise, copper ore, zinc ashes.	*General merchandise.*	None.
Quebec, Baltic, Bremen.	*Waterford, Bristol, and Welsh ports.*	Timber, ice	*Coal, cement, manure, fish, cattle, slates.*	*Passenger steamers to Liverpool Swansea, and Wexford (weekly); Waterford (daily); Cork (three times a week).*
Baltic ports	*Bristol, Cardiff, Swansea, Waterford, Dublin, Cork.*	Timber	*Coal, culm, manure, and general merchandise.*	None.
Canada	*Swansea, Llanelly, Newcastle.*	Timber	*Coal, grain, limestone, cement, potatoes, explosives, and general merchandise.*	No foreign passenger traffic. *An excursion steamer runs from Liverpool to Llandudno and Carnarvon in summer months.*
Hamburg, Sundsvall, Frederichstadt.	*Liverpool, Runcorn,*	Timber and explosives.	*Coal, manure, cement.*	*Passengers from Liverpool, Southport, and Isle of Man during summer months.*
Carthagena, Krogero, Porsgrund.	*Liverpool, Millom, Barrow.*	Iron ore, timber.	*Iron ore*	None.
All parts of the world, but chiefly North and South America, Baltic, Hamburg, Mediterranean, India, China.	*Cardiff, Swansea, Plymouth, Southampton, London, Dublin, Drogheda, Glasgow, Dundee.*	Cotton, fresh and preserved meats, sugar, fruit, spirits, rags.	*General cargoes*	Very large passenger trade with America, only casual passengers from European ports. Large number of transmigrants from Germany, Russia, Scandinavia, from East coast ports en route for America. *Regular Passenger trade with Belfast, Dublin, Isle of Man, Glasgow, and London. Large excursion traffic with Welsh ports.*
Canada, Newfoundland.	*Liverpool, Glasgow, Londonderry, Dublin, Drogheda.*	Timber, corn, potatoes, wood pulp.	*Pig iron, corn, oatmeal, iron ore, general goods, china, clay, whiting, cannel coal.*	*Occasional passenger steamers in the summer to the Isle of Man, Blackpool, Southport, and Llandudno.*
Baltic, Mediterranean, North America, Black Sea.	*Liverpool, Isle of Man, Belfast, Londonderry, Glasgow, Ardrossan.*	Grain. timber, wood pulp, esparto, iron ore, logwood, ice.	*China clay, pig iron, Irish oats, timber, general cargoes.*	Passenger steamer twice a week in summer from Jersey. *Important passenger traffic with Isle of Man.*
Hamburg, Antwerp, Baltic.	*London, Fowey.*	Muriate of potash, timber, ochre, cork, grain.	*Cement, slates, grain, pig iron.*	No foreign passenger traffic. *A few excursion steamers from neighbouring British ports during summer.*
Bilbao, Carthagena, Antwerp.	*Liverpool, Swansea, Cardiff, Newport, Dublin.*	Iron ore, silver, sand.	*General merchandise, anthracite coal.*	*Passenger traffic with Isle of Man.*

vessels entering the port.

TABLE II.—Amount and Character of the Shipping Trade from Foreign Wales inspected

Number.	Name of Urban Riparian Sanitary District,	Amount of Shipping Inwards during 1892,											
		Foreign.						Coastwise.					
		Steamers.		Sailing.		Total.		Steamers.		Sailing.		Total.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1	Berwick-on-Tweed.	14	7,309	54	11,871	68	19,180	83	4,784	143	8,714	573*	16,718*
2	Amble	159	66,603	89	8,393	248	74,996	358	99,975	90	13,513	448	113,488
3	Seaham Harbour	53	19,425	19	2,659	72	22,084	*Not returned separately.*				976	213,786
4	Whitby	1	173	8	1,132	9	1,305	196	30,892	234	28,552	430	59,444
5	Scarborough	—	—	25	3,883	30*	4,150*	178	30,292	138	9,812	316	40,104
6	Filey	—	—	—	—	—	—	—	—	24	976	40*	1,437*
7	Bridlington	1	239	4	578	11*	1,020*	70	2,631	22	1,253	235*	12,767*
8	Southwold	—	—	—	—	—	—	—	—	4	117	17*	406*
9	Aldeburgh	—	—	1	22	3*	82*	47	784	136	6,782	222*	9,156*
10	Walton-on-the-Naze.	—	—	—	—	—	—	18	195	174	6,991	187	7,186
11	Great Clacton	—	—	—	—	—	—	269	29,352	50	2,488	319	31,840
12	Herne Bay	—	—	—	—	—	—	—	—	110	5,138	110	5,138
13	Margate	—	—	6	528	6	528	109	34,699	227	14,913	336	49,612
14	Dover	3,096	788,033	28	7,754	3,114	795,787	593	121,767	521	44,473	1,113	166,240
15	Folkestone	1,050	226,633	18	2,954	1,068	229,587	*Not returned separately.*				181	30,585
16	Lymington	—	—	2	369	2	369	859	36,456	158	8,513	1,017	44,987

* The totals include fishing

and Coastwise of certain Urban Riparian Sanitary Districts of England and during 1893–94.

Ports with which District has most Trade, or most frequent Communication.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	
Hamburg, Harburg, Antwerp, Ghent, Rosario.	*London, Middlesbrough, Hull, Newcastle, Leith, Fowey.*	Linseed cake, timber, bones, pyrites, and kainit.	*Coal, pig iron, corn, potatoes, china, clay, linseed.*	None.
Bergen, Wyk, Tonning, Boulogne, Copenhagen.	*Chatham, Dundee*	Mining and building timber; many vessels in ballast.	*Salt, oilcake, potatoes.*	No systematic passenger traffic; only an occasional passenger.
Dunkirk, St. Malo, Boulogne.	*London*	Timber, sand; chiefly in water ballast.	*Sand, clay, sulphate.*	None.
Sweden and Norway.	*Hartlepool, River Blyth.*	Timber, bark, ice	*Coal, corn, and general goods.*	No foreign passenger traffic. *Excursion steamers in summer from Scarborough and Saltburn*
Brevig, Christiansand, Gottenberg, Sundsvall.	*London, Hartlepool, Queensferry.*	Ice, timber	*Coal, stone, general goods.*	*One passenger steamer each week from London. Excursions from Hartlepool, Whitby, and Bridlington.*
None	*Hartlepool*	None	*Coal, patent fuel, cement, bricks, wood.*	None.
Calais, Boulogne.	*London, Hull, Newcastle, Seaham Harbour.*	Wood, fish	*Bones, coal*	No systematic passenger trade. *Frequent excursion steamers from Scarborough in summer*
None	*Hartlepool*	None	*Coal, and building materials,*	None.
Occasional yachts only.	*London*	None	*Timber, coal*	None.
None	*London, Harwich, Ipswich.*	None	*Bricks, manure, stone, coal, barley, maize.*	*Passengers from London, Ipswich, and Harwich.*
None	*London, Ipswich, Harwich.*	None	*Bricks, stone, chalk, London manure.*	*Many passengers and excursion steamers from London, Ipswich, and Harwich.*
None	*London*	None	*Coal, and manufactured articles.*	None.
Selsette, Cherbourg.	*Tyne, Seaham, Hartlepool.*	Tar	*Coal*	*Considerable passenger traffic in summer with London, Margate, Dover, and Boulogne.*
Calais, Ostend	*London, Tyne ports, Hull, Hartlepool.*	General cargoes, rags.	*Coal, grain, flour*	Very large passenger traffic with Calais, Ostend, Newhaven. *London, Ramsgate, Deal, Glasgow, Waterford, Southampton.*
Boulogne	*Tyne ports, Sunderland, Hull and Goole.*	French, Swiss, and Italian manufactured goods.	*Coal*	Large passenger traffic with Boulogne.
Gottenberg	*Sunderland, Seaham Harbour, Hartlepool.*	Timber and moss litter.	*Coal, manure, moss litter, slates.*	—

vessels entering the district.

TABLE II.—

Number.	Name of Urban Riparian Sanitary District.	Amount of Shipping Inwards during 1892.											
		Foreign.						Coastwise.					
		Steamers.		Sailing.		Total.		Steamers.		Sailing.		Total.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
17	TORQUAY - -	1	623	6	1,285	7	1,908	*Not returned separately*				*374*	*92,502*
18	NEWQUAY - -	—	—	—	—	—	—	—	—	*104*	*5,617*	*104*	*5,617*
19	LLANELLY - -	83	25,305	61	12,767	144	38,072	*395*	*66,524*	*197*	*18,962*	*592*	*85,486*
20	KIDWELLY - -	—	—	—	—	—	—	*4*	*350*	*1*	*74*	*5*	*424*
21	CARMARTHEN -	—	—	3	671	3	671	*90*	*6,060*	*11*	*683*	*101*	*6,743*
22	TENBY - -	—	—	—	—	—	—	*44*	*16,400*	*31*	*1,383*	*2,775**	*83,283**
23	ABERYSTWITH -	—	—	2	587	2	387	*60*	*3,654*	*74*	*3,465*	*134*	*7,119*
24	TOWYN - - -	2	988	5	761	7	1,749	*57*	*3,500*	*80*	*4,383*	*137*	*7,883*
25	YNYSCYHAIARN -	—	—	35	4,893	35	4,893	—	—	*890*	*69,904*	*890*	*69,904*
26	PWLLHELI -	—	—	3	450	3	450	*31*	*2,957*	*40*	*3,005*	*94**	*6,262**
27	HOLYHEAD - -	15	5,731	1	475	16	6,206	*Not returned separately*				*2,503*	*976,228*
28	BARROW - IN - FURNESS.	69	79,896	50	43,594	119	123,490	*1,219*	*297,800*	*211*	*15,682*	*1,430*	*313,482*
29	MILLOM - -	11	2,072	—	—	11	2,072	*214*	*18,130*	*792*	*112,439*	*1,006*	*130,569*
30	MARYPORT - -	46	47,495	13	3,413	50	50,908	*Not returned separately*				*1,116*	*135,412*
31	HOLME CULTRAM	9	9,729	16	7,560	25	17,289	*562*	*88,459*	*106*	*7,288*	*668*	*95,747*

* These totals include fishing

continued.

Port with which District has most Trade or most frequent Communication.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	19.
Baltic	*London, Bristol*	Timber	*Slates, general cargoes.*	—
None	*Coal ports of England and Wales.*	None	*Coal and chemical manure.*	—
Bilbao	*London, Liverpool, Wexford, Dublin.*	Timber (pitwood), copper, lead, and iron ores, sulphur.	*Pig iron, lead and copper ores, pitwood, building materials.*	*Passenger steamer to Liverpool and Cumberland ports twice or thrice a week; to Bristol, weekly.*
None	*Liverpool*	None	- -	*Occasional passenger steamer to Carmarthen and Tenby.*
Sundsvall	*Bristol, Liverpool*	Timber	*General merchandise groceries.*	—
Christiania	*Pembroke; Bristol*	Ice	*Coal, general merchandise, bricks, slate.*	*Occasional passengers, Bristol, Kidwelly, and Carmarthen.*
Baltic ports	*Liverpool*	Timber	*Coal, groceries, and general merchandise.*	*A few passengers on steamers from Liverpool and Bristol.*
Baltic ports	*Liverpool*	Timber and grain	*Timber, grain, coal.*	None.
Harburg	*Cardiff, Liverpool*	Onions and timber	*Coal, timber, limestone, manufactured articles.*	—
Gottenberg	*London, Cardiff*	Timber	*Limestone, coal, general merchandise.*	None.
Antwerp, Hamburg, Treport.	*Dublin, Liverpool, London.*	Timber, potatoes, fruit.	*General merchandise.*	*Large passenger traffic with Ireland.* Thrice a week in summer with Channel Islands.
Sarpsborg, Sundsvall, Tornea, Laurvig, Batoum, Carthagena, Bilbao.	*Liverpool, Belfast, Glasgow.*	Timber, iron ore, corn, petroleum, grain.	*General goods, coal.*	Occasional passengers from Antwerp.
Bilbao, St. Malo	*Belfast*	Iron ore, timber	*Timber, coal*	None.
Ergasteria, Carthagena.	*Belfast, Dublin*	Grain, iron ore, timber, tanner's extracts.	*Grain, hides, general merchandise, iron ore, coal, coke.*	None.
Mediterranean, Black Sea, Hamburg, Antwerp.	*Liverpool, Dublin*	Grain, timber, sulphur ore, phosphates.	*General cargoes, slates.*	*Passengers from Liverpool and Dublin.*

vessels entering the district.

TABLE III.—Amount and Character of the Shipping Trade from Foreign Wales inspected

Number.	Name of Rural Riparian Sanitary District.	Amount of Shipping Inwards during 1892.											
		Foreign.						*Coastwise.*					
		Steamers.		Sailing.		Total.		*Steamers.*		*Sailing.*		*Total.*	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*	*Number.*	*Tonnage.*
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1	Belford	—	—	—	—	—	—	*20*	*662*	*24*	*1,366*	*44*	*2,228*
2	Tendring	—	—	—	—	—	—	*13*	*195*	*95*	*3,470*	*108*	*3,665*
3	Lexden and Winstree.	—	—	—	—	—	—	—	—	*199*	*7,600*	*199*	*7,600*
4	Blean	—	—	29	1,389	29	1,389	—	—	*778*	*71,420*	*778*	*71,420*
5	Llanelly	15	4,482	22	3,637	37	8,119	*198*	*22,987*	*95*	*10,294*	*293*	*33,281*
6	Narberth	—	—	—	—	—	—	*19*	*1,503*	*198*	*10,118*	*217*	*11,621*

(2.) GENERAL SANITARY ADMINISTRATION UNDER THE PUBLIC HEALTH ACTS.

As already indicated, the ordinary duties and responsibilities of a Port or Riparian Sanitary Authority under the Public Health Act, 1875, and the Public Health (Ships) Act, 1885, as regards vessels and persons on shipboard are practically identical with those entrusted to a Local Authority on shore, with respect to houses and their inmates. These duties comprise (*a*) measures for securing the wholesomeness of vessels and for preserving the health of persons on shipboard and (*b*) measures for preventing the introduction and spread of infectious diseases. In order to ensure the wholesomeness of vessels it is incumbent upon every Port and Riparian Sanitary Authority, as matter of routine duty, to cause systematic inspection of vessels to be made with a view to the discovery and abatement of nuisances and to the remedying of conditions likely to be injurious to health. To this end it is necessary that the Medical Officer of Health and Inspector of Nuisances, officers upon whom the carrying out of these duties devolve, should be acquainted with the internal economy and fittings of ships. The measures for preventing the introduction and spread of infectious diseases consist in the main of prompt notification of the existence of such disease, isolation of the actually infected persons in hospital, the disinfection of infected things, and the prohibition of the exposure of infected persons or of infected articles.

To enable a Port or Riparian Sanitary Authority to carry out with any degree of efficiency the measures necessary to limit the spread of infection it is essential that—

and COASTWISE of certain RURAL RIPARIAN SANITARY DISTRICTS of ENGLAND and during 1893-94.

Port with which District has most Trade, or most frequent Communication.		Character of Trade Inwards.		Passenger Traffic.
Foreign.	*Coastwise.*	Foreign.	*Coastwise.*	
15.	16.	17.	18.	19.
None	*River Tyne and Leith.*	None	*Coal, salt, potatoes.*	None.
None	*London, Maidstone, Hartlepool.*	None	*Coal, coke, manure, chalk, and stone.*	None.
None	*London, Maidstone, Hartlepool.*	None	*Coal, coke, manure, chalk, and stone.*	None.
Ostend, Dunkirk.	*Newcastle, Sunderland, Seaham, Hartlepool, London.*	Timber, valonia	*Coal, coke, oilcake.*	None.
Bilbao, Brest	*Liverpool, London.*	Timber, pitwood, lead and copper ores, sulphur.	*Pig iron, lead and copper ores, pitwood, manure, slates, cement, bricks.*	None.
None	*Swansea*	- - -	*Groceries, bricks, drain pipes.*	None.

(a.) The Infectious Disease (Notification) Act, 1889 should be adopted, in order that prompt notice of the existence of disease may be obtained.

(b.) Regulations should be drawn up under Section 125 of the Public Health Act, 1875, to secure the removing to hospital, and the keeping there as long as necessary, of any persons brought within the district by vessel who are infected with a dangerous infectious disorder.

(c.) A properly equipped isolation hospital should be provided.

(d.) An efficient disinfecting apparatus should also be available.

The extent to which the Port Sanitary Authorities were found *at the date of inspection* to have appreciated their routine duties and responsibilities may be gathered from Table IV. In this Table the main facts recorded by the Inspectors as to the general administration of the Port Sanitary Authorities are given under the following headings:—

Administration by Port Sanitary Authority (col. 3); salary and character of work of Medical Officer of Health (cols. 4 and 5); salary and character of work of Inspector of Nuisances (cols. 6 and 7); inspection of vessels for nuisances (cols. 8, 9, and 10), hospital, disinfecting apparatus, and mortuary provision (cols. 11, 12, and 13): adoption of regulations under Section 125 of the Public Health Act, 1875, and of the Infectious Disease (Notification) Act,1889 (cols. 14 and 15).

To give some notion of the results of the Inspectors' visits I have added notes in italics as to action taken by the Port Sanitary Authorities subsequent to the Inspectors' visits when such information was available.

TABLE IV.—General Administration of Port Sanitary

Statements in Italics refer to action entered on by Port

No.	Port Sanitary Authority.	Administration by Port Sanitary Authority.	Medical Officer of Health.		Inspector of Nuisances.	
			Annual Salary.	Character of Work.	Annual Salary.	Character of Work.
Col. 1.	2.	3.	4.	5.	6.	7.
1	River Blyth -	Not very satisfactory.	*25*l.* with repayment.	Good	*5*l.* without repayment. [A temporary Assistant Inspector appointed 1892 at 1*l.* 1*s.* per week.] *All vessels entering port in 1893 visited.*	Unsatisfactory
2	River Tyne -	Very efficient	*80*l.* with repayment. *Two Assistant Port Medical Officers appointed temporarily in 1893.*	Highly efficient	130*l.* and allowances with repayment. [One permanent and one temporary Assistant Inspectors with with 35*s.* and 30*s.* per week respectively.]	Good
3	Sunderland -	Not very satisfactory.	*20*l.* without repayment.	Newly appointed, apparently efficient.	100*l.* without repayment.	Fair
4	Hartlepool -	Satisfactory	10*l.* without repayment and fees.	Efficient	100*l.* with repayment. *An Assistant Inspector of Nuisances temporarily appointed in Autumn of 1893.*	Good
5	River Tees -	Good	*10*l.* without repayment.	Very good	143*l.* without repayment.	Very good
6	Hull and Goole	Actively and efficiently carried out.	*90*l.* without repayment. [A permanent Assistant Medical Officer of Health with salary of 10*l.* and fees.] *Deputy Port Medical Officer of Health appointed at Goole in 1893.*	Highly efficient.	125*l.* and uniform without repayment. [One permanent Assistant Port Inspector of Nuisances with 28*s.* per week.]	Very good

* This Officer also holds

Districts of England and Wales at Date of Inspection in 1893.

Sanitary Authority in sequence to Visits of Inspector.

Inspection of Vessels for Nuisances.			Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
Observance of this Duty.	No. reported defective, 1892.	No. of Orders issued, 1892.					
8.	9.	10.	11.	12.	13.	14.	15.
Lax	34	None	None. Site obtained on shore. *Hospital with accommodation for 20 beds erected in 1893.*	None	P.S.A. have use of mortuary provided by South Blyth U.S.A.	July 18th, 1888.	Not adopted. *Adopted, July 23rd, 1893.*
Systematically performed.	1,085	1,085	Properly equipped floating hospital with accommodation for 30 beds.	Apparatus on floating hospital for sulphur fumigation only. *Hulk containing steam disinfecting apparatus and arrangements for disinfecting vessels provided in 1894.*	Provided at floating hospital.	Feb. 16th, 1886.	April 14th, 1890.
Fair	47	47†	None *Floating hospital with accommodation for 5 beds provided in 1893.*	None. Have use of Washington Lyon's steam apparatus at Urban hospital.	None	None	Not adopted. *Adopted, May 17th 1893.*
† Of which 43 verbal.							
Efficient	107	107	Hospital with accommodation for 20 beds erected in 1886. Defective in some respects.	Washington Lyon's at hospital.	Provided at hospital.	June 1st, 1886.	November 21st, 1889.
Efficient	196	184	Temporary hospital provision on shore with accommodation for 12 beds. *In 1893 a loan for 7,000l. sanctioned for erection of a fully equipped floating hospital with accommodation for 20 beds. Hospital completed and furnished 1894.*	None *Disinfecting apparatns provided at new hospital.*	None *Provided at new hospital.*	None *December, 1893.*	Not adopted. *Adopted, June 12th, 1893.*
Efficient	363	51‡	Wooden hospital on shore with accommodation for 50 beds. *In 1893 a hulk was purchased and fully equipped as a floating hospital with accommodation for 20 beds and stationed at Hull. At same time a fly-boat was fitted up as a floating hospital with 6 beds and stationed at Goole.*	Ransome's hot air chamber at hospital. *Washington Lyon's steam apparatus provided in floating hospital.*	Provided at hospital. *Provided in floating hospital.*	June 6th, 1890.	February 17th, 1890.
‡ In addition many informal notices given.							

other sanitary offices.

TABLE IV.—

No.	Port Sanitary Authority.	Administration by Port Sanitary Authority.	Medical Officer of Health.		Inspector of Nuisances.	
			Annual Salary.	Character of Work.	Annual Salary.	Character of Work.
Col. 1.	2.	3.	4.	5.	6.	7.
7	GRIMSBY - -	Fair	*25*l*. with repayment.	Good	*100 without repayment.	Fair, in consideration of the fact that the Inspector is hampered by his other duties.
8	BOSTON - -	Fairly good	*10*l*. with repayment.	Active and energetic.	*10*l*. with repayment.	Fair, in consideration of the fact that the Inspector is extremely deaf.
					An Assistant Port Inspector of Nuisances appointed in 1893 and 1894.	
9	WISBECH -	Inefficient	*20*l*. with repayment.	Energetic, but not supported by Port Sanitary Authority.	*5*l*. 5*s*. with repayment.	Duties chiefly carried out by deputy.
					An Assistant Inspector of Nuisances appointed at Sutton Bridge.	
10	KING'S LYNN -	Not very efficient.	*A fee of 10*s*. for each vessel examined.	Fair, but work chiefly done by deputy.	*25*l*. with repayment.	Unsatisfactory
11	WELLS - -	Unsatisfactory	*5*l*. with repayment.	Fair recently	*3*l*. with repayment.	Unsatisfactory
			All vessels from foreign inspected by Medical Officer of Health.			
12	YARMOUTH -	Extremely inefficient.	*25*l*. with repayment.	Conscientious and painstaking, much hampered by supineness of Port Sanitary Authority.	*10*l*. with repayment.	Very inefficient
			All vessels entering Port from foreign inspected by Medical Officer of Health.		*Permanent Port Inspector of Nuisances appointed 1893.*	
13	LOWESTOFT -	Fairly good	*20*l*. with repayment.	Good	*20*l*. with repayment.	Fair, but hampered by other duties.
			Two temporary Assistant Medical Officers of Health appointed 1893, and all vessels from "infected ports" boarded and inspected.			

* This Officer also holds

continued.

Inspection of Vessels for Nuisances.			Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
Observance of this Duty.	No. reported defective, 1892.	No. of Orders issued, 1892.					
8.	9.	10.	11.	12.	13.	14.	15.
Fair in view of circumstances stated in col. 7.	62	62	Vessel fitted up as a floating cholera hospital; moored in dock. *Hospital ship towed to her moorings in Humber, August 3rd, 1893. Medical Superintendent appointed with two nurses and crew of seven men under his charge.*	None [Washington Lyon's steam apparatus at Grimsby Urban Hospital.]	None	None	Under local Act.
Inefficient	None	None	Farmhouse on shore, property of U.S.A., about ¼ mile from docks fitted as hospital in 1881. Four wards with accommodation for 12 beds. New block with accommodation for 3 beds in course of erection at date of inspection.	None	None *Provided at Port hospital.*	None	Not adopted.
Doubtful	7	?	Wooden building with accommodation for 4 beds erected in 1885 on shore about a mile from Sutton Bridge; defective in many respects. *Various sanitary defects at hospital remedied.*	None *"Fumigation chamber" erected at the Port hospital.*	Provided at hospital.	None	Not adopted.
Bad *Routine inspection of vessels now carried out.*	None	None	Small hospital on shore provided by King's Lynn Urban and Port Sanitary Authorities in 1890, to which Port Authority could send patients; accommodation for 8 beds. A tent also available with accommodation for 4 beds.	A "sulphur chamber" at Urban hospital. *Steam disinfection available for use of Port Authority purchased by Urban Authority.*	None	None	Not adopted. *Adopted August 9th, 1893.*
Bad	None	None	Unfurnished cottage on shore leased in 1892 for purposes of cholera hospital. Supposed to have accommodation for 2 beds.	None	None	None	March 9th, 1892,
Bad *Routine inspection of vessels carried out in satisfactory manner 1893-94.*	None	None	None. The Port Sanitary Authority would use town hospital, which, however, has been condemned. *Hospital for Port purposes erected near mouth of Harbour.*	Goddard and Massey's steam apparatus at Urban hospital available for port purposes.	Provided at Gorleston near mouth of river.	None	November 20th, 1890.
Fair	8	8	Wooden hospital for eight beds, erected by Urban Authority, available for port purposes in addition to cholera hospital for 4 beds erected in 1892.	Goddard and Massey's steam apparatus at Urban hospital.	Properly equipped mortuary provided on beach.	September 28th, 1888.	December 10th, 1889.

other sanitary offices.

TABLE IV.—

No.	Port Sanitary Authority.	Administration by Port Sanitary Authority.	Medical Officer of Health.		Inspector of Nuisances.	
			Annual Salary.	Character of Work.	Annual Salary.	Character of Work.
Col. 1.	2.	3.	4.	5.	6.	7.
14	IPSWICH - - -	Indifferent	*None *Salary of 20l. voted to Medical Officer of Health.*	Energetic	*No special salary. *Assistant Inspector of Nuisances appointed 1893.*	Inefficient
15	HARWICH -	Indifferent	*15l. without re-payment.	Not satisfactory	12s. per week without re-payment. *Port Inspector of Nuisances, appointed 1893.*	Inefficient
16	COLCHESTER -	Fairly satisfactory.	10l. without re-payment.	Not satisfactory	20l. without re-payment. *Port Inspector of Nuisances boards and inspects every vessel entering District.*	Leaves most of his work to be done by deputy.
17	MALDON - -	Not very efficient.	*10l. 10s. with repayment.	Satisfactory	24l. with repayment.	Fair, but no records of work kept.
18	LONDON - -	Good	900l. without repayment. [One permanent Assistant Port Medical Officer, resident at Greenwich, salary 210l. per annum. Four temporary assistants, two at 7l. 7s. and two at 6l. 6s. per week.]	Most excellent	(1) 3l. per week (2) 2l. 10s. „ (3) 2l. 10s. „ (4) 2l. „ (5) 2l. „ *Two additional Inspectors of Nuisances appointed with salaries of 1l. 15s. per week.*	Satisfactory
19	ROCHESTER -	Somewhat lax	*50l. with repayment.	Active	10l. without repayment. *Port Inspector of Nuisances appointed to give his whole time to his duties.*	Unsatisfactory
20	FAVERSHAM -	Somewhat lax	*20l. with repayment. *Assistant Port Medical Officer of Health appointed.*	Fair	15l. with repayment. *Assistant Inspector of Nuisances appointed.*	Not devoid of energy.

* This Officer also holds

continued.

Inspection of Vessels for Nuisances.			Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
Observance of this Duty.	No. reported defective, 1892.	No. of Orders issued, 1892.					
8.	9.	10.	11	12.	13.	14.	15.
Bad *Port Authority arranged for supervision of all vessels entering District.*	None	None	None. Except at Urban Hospital. *New floating hospital provided 1893, for provision of which loan for 700l. sanctioned on May 25th, 1893.*	Goddard and Massey's dry-heat apparatus at Urban hospital.	Provided at Urban hospital.	None	Not adopted.
Bad	None	None	A barge with wooden super-structure fitted as floating hospital in 1884 with accomodation for four beds. Condition of floating hospital unsatisfactory. *Vessel purchased and fitted up for purposes of floating hospital.*	None	None	None	Not adopted. *Adopted 1893.*
Doubtful	None	None	Floating hospital with accommodation for four beds provided in 1892. *Accommodation in Floating Hospital improved 1893.*	None	None	None	January 1st, 1890.
No records	—	—	None belonging to Port Sanitary Authority. Arrangements made with Maldon Rural Authority for use of a hospital tent "if required." *Many attempts made to secure site for a hospital without result.*	None	None	None	Not adopted. *Adopted Sept. 12th, 1893.*
Not very satisfactory.	295	764 (verbal orders)	Fully-equipped hospital on shore, erected in 1884 and 1892, with accommodation for 17 beds. Arrangements also made for use of 16 beds at Seaman's Hospital, Greenwich, if necessary. *Additional administrative buildings provided at Port Sanitary Hospital.*	Two at port hospital, a Washington Lyons' steam apparatus and a Scott's hot air chamber. *Arrangements made with Whitechapel Sanitary Authority for the use of steam disinfecting apparatns for infected articles in vessels in neighbouring docks.*	Provided at port hospital.	Jan. 29th, 1893.	Jan. 20th, 1890.
Unsatisfactory. *Inspection of vessels well carried out 1894.*	84	84	None at date of inspection. *Vessel purchased at a cost of 515l. for use as a floating hospital.*	None	Provided at Town Quay, Rochester.	None	Sept. 20th, 1889.
Unsatisfactory.	52	None	An imperfect floating hospital for cholera, with two wards provided.	None	None *Provided on floating hospital.*	None *Approved July 12th, 1894.*	July 8th, 1890. *Re-adopted June 26th, 1894.*

other Sanitary offices.

TABLE IV.—

No.	Port Sanitary Authority.	Administration by Port Sanitary Authority.	Medical Officer of Health.		Inspector of Nuisances.	
			Annual Salary.	Character of Work.	Annual Salary.	Character of Work.
Col. 1.	2.	3.	4.	5.	6.	7.
21	SANDWICH -	Unsatisfactory	*5*l*. without repayment.	Unsatisfactory	* No special salary. *Arrangements regular and tion of all district.*	A careful and intelligent officer. *made to secure thorough inspec- vessels entering*
22	DEAL - - -	Lax	*10*l*. without repayment and fees.	Energetic	*5*l*. without repayment.	Nominal.
23	NEWHAVEN -	Very unsatisfactory.	10*l*. 10*s*. with repayment.	During 1892 satisfactory.	*8*l*. with repayment.	Unsatisfactory.
24	NEW SHOREHAM	Lax in part	*20*l*. with repayment.	Satisfactory	10*l*. with repayment.	New officer apparently efficient.
25	LITTLEHAMPTON	Very lax	12*l*. 12*s*. with repaymect.	Unsatisfactory	*10*l*. 10*s*. with repayment.	Unsatisfactory.
26	PORTSMOUTH -	Considerable room for improvement.	*No special salary.	Capable and energetic officer.	25*l*. without repayment.	Unsatisfactory.
27	SOUTHAMPTON -	Improving	*100*l*. with repayment.	Good	35*s*. per week with repayment.	Fairly good
28	COWES - -	Not satisfactory.	*20*l*. with repayment.	During 1892 fair.	20*l*. with repayment.	Fair
29	POOLE - -	Moderate	*25*l*. without repayment.	Capable	*25*l*. without repayment.	Moderate

* This Officer also holds

continued.

Inspection of Vessels for Nuisances.			Hospital Provision	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
Observance of this Duty.	No. reported defective, 1892.	No. of Orders issued, 1892.					
8.	9.	10.	11.	12.	13.	14.	15.
No records	—	—	None	None	None	None	June 1891.
None	None	None	None *Temporary hut erected on shore for hospital purposes.*	None. But the Port Authority could obtain use of the steam apparatus belonging to Deal Urban Authority.	None. But Mortuary belonging to Deal Urban Authority placed at disposal of Port.	None	Not adopted. *Adopted September 8th, 1893.*
Unsatisfactory.	19	7	None. The Newhaven Urban Sanitary Authority possess an unsatisfactory hospital situate a mile and a quarter from the harbour. *Hospital with accommodation for 20 beds erected 1893.*	None	None	None	February 26th. 1890.
No records.			A "hospital" consisting of two disused railway carriages united and internally rearranged "erected" in 1887. Not prepared for occupation at time of inspection,	None	None	None	Not adopted, *Adopted 1893.*
Lax.	11	11	None	None	None	None	Not adopted.
Inadequate	No records		An Admiralty dredger, the "Port Patrick" hired and fitted up as a port hospital with accommodation for 12 beds.	—	—	None	Not adopted.
Fair	138	133	A vessel hired and fitted up as a floating hospital in 1893, with accommodation for 18 beds. *Vessel purchased and fitted up as a floating hospital at a cost of 5,500l.*	None belonging to Port Authority, but has use of disinfecting apparatus belonging to Southampton Corporation.	Provided in floating hospital.	None	Not adopted. *Adopted Sept. 19th, 1894.*
Imperfect *Arrangements made for securing inspection of all trading vessels and yachts frequenting the port.*	None	None	A schooner yacht bought for purpose of floating hospital; not fitted up at date of inspection. *Floating hospital, fully equipped.*	None	None *Provided at floating hospital.*	None	Feb. 1st, 1890.
Moderate	11	3	Hospital, with accommodation for 15 beds, erected on shore.	None	None *Provided near hospital.*	None	Not adopted. *Adopted July 21st, 1893.*

other Sanitary offices.

TABLE IV.—

No.	Port Sanitary Authority.	Administration by Port Sanitary Authority.	Medical Officer of Health.		Inspector of Nuisances.	
			Annual Salary.	Character of Work.	Annual Salary.	Character of Work.
Col. 1.	2.	3.	4.	5.	6.	7.
30	WEYMOUTH -	Satisfactory	50*l.* with repayment.	Very good	25*l.* with repayment.	Efficient
31	EXETER - -	Improving	*20*l.* without repayment and fees.	Fair	15*l.* without repayment.	Fair
32	TEIGNMOUTH -	Indifferent	*20*l.* with repayment.	Fair	*10*l.* with repayment.	Fair
33	DARTMOUTH AND TOTNES.	Bad	*12*l.* without repayment.	Nominal only	None	None performed
34	KINGSBRIDGE AND SALCOMBE.	Imperfect	*10*l.* with repayment.	Satisfactory	*5*l.* with repayment.	Doubtful
35	PLYMOUTH -	Good	*100*l.* without repayment. *A deputy Port Medical Officer of Health appointed.*	Very good	117*l.* without repayment. *Every vessel entering the port*	Very satisfactory *the Inspector of*
36	FOWEY - -	Moderate	25*l.* with repayment. *Deputy Medical Officers of Health appointed for the several sub-ports.*	Fair, considering extent of district and difficulties of travelling.	50*l.* with repayment.	Good
37	FALMOUTH AND TRURO.	Unsatisfactory	* 50*l.* with repayment. [A deputy Medical Officer of Health at 10*l.* per annum appointed to act at Truro if necessary.]	Good	10*l.* without repayment.	Unsatisfactory
38	PENZANCE -	Very fair	* 20*l.* with repayment.	Physically incapacitated.	* 5*l.* with repayment.	Energetic
39	ISLES OF SCILLY	Fair considering special circumstances of district.	* 2*l.* 2*s.* 0*d.* without repayment and fees.	Satisfactory	No inspector appointed.	

* This Officer also holds

continued.

Inspection of Vessels for Nuisances.			Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
Observance of this Duty.	No. reported defective, 1892.	No. of Orders issued, 1892.					
8.	9.	10.	11.	12.	13.	14.	15.
Satisfactory.	?	?	Fully equipped permanent hospital, with accommodation for 24 beds, erected in 1880 on a narrow neck of sand which connects the Isle of Portland with mainland.	Scott's hot-air apparatus provided at hospital.	Provided at hospital.	None	Jan. 1890.
Moderate	32	32	None - - - *Several unsuccessful efforts made by Port Sanitary Authority to secure a site for hospital purposes.*	None	None	None	Oct. 14th, 1892.
Moderate	8	8	None	None	None	None	January 1st, 1890.
Bad	None	None	Old passenger steamer purchased in 1893 which it was proposed to fit up for hospital purposes.	None	None	None	Not adopted. *Adopted May 12th, 1893.*
Regular and thorough inspection of vessels entering port carried by Inspector of Nuisances.			*Floating hospital fully equipped with accommodation for 25 beds at a cost of 1,133l.*				
Imperfect	?	?	None	None	None	None	Not adopted.
Satisfactory	196	196	An old frigate has been fully equipped to serve the purpose of a floating hospital; accommodation for 50 beds.	None	On board floating hospital.	None	January 28th 1891.
visited on her arrival by Nuisances.							
Fair	1	—	Galvanised iron building erected on shore in 1891 with accommodation for 4 beds.	None	Provided at hospital.	October 25th, 1888.	February 1st, 1890.
Bad	No records		Wooden hospital provided on shore with accommodation for 6 beds.	None	None	None	Feb. 20th, 1889,
Fair	8	8	A double-walled tent with accommodation for 3 beds purchased.	Moveable hot-air apparatus kept at Urban hospital.	Provided at cemetery.	None	Not adopted. *Adopted, May 24th, 1893.*
No action			Building near pier at St. Mary's was being fitted up at date of inspection; accommodation for 4 beds.	None	None	None	Not adopted.

other Sanitary offices.

TABLE IV.—

No.	Port Sanitary Authority.	Administration by Port Sanitary Authority.	Medical Officer of Health.		Inspector of Nuisances.	
			Annual Salary.	Character of Work.	Annual Salary.	Character of Work.
Col. 1.	2.	3.	4.	5.	6.	7.
40	HAYLE - -	Indifferent	* 7*l.* without repayment.	Very unsatisfactory.	* No special salary.	New appointment.
41	PADSTOW - -	Fairly satisfactory.	* 5*l.* without repayment.	Ill at date of inspection.	10*l.* with repayment.	Fair
42	BARNSTAPLE -	Good	*10*l.* with repayment.	Satisfactory	15*l.* with repayment.	Fair
43	BRIDGEWATER -	Moderate	*20*l.* with repayment.	Satisfactory	*30*l.* with repayment.	Not very satisfactory.
44	BRISTOL - - -	Very good	*50*l.* without repayment. [A permanent Assistant Port Medical Officer paid by fee of 1*l.* 1*s.* for each vessel visited.]	Highly efficient.	*180*l.* without repayment. [Two Assistant Port Inspectors of Nuisances, one at 2*l.* 2*s.* and the other at 1*l.* 1*s.* per week.]	Very good
45	GLOUCESTER -	Satisfactory	*50*l.* with repayment.	Satisfactory	10*l.* with repayment.	Fair
46	CHEPSTOW -	Bad	* No special salary.	Fair	*No special salary.	No action taken
47	NEWPORT -	Very fair	*50*l.* with repayment.	Good	104*l.* with repayment.	Satisfactory

* This officer also holds

continued.

Inspection of Vessels for Nuisances.			Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
Observance of this Duty.	No. reported defective, 1892.	No. of Orders issued, 1892.					
8.	9.	10.	11.	12.	13.	14.	15.
Not dealt with. *Inspection of vessels by Port Inspector of Nuisances regularly carried out.*			Arrangements made for the erection in a few hours of a wooden hospital in the sanddunes in Phillack Urban District "when necessary." *Suitable site obtained on shore for erection of tents in case of need.*	None	None	None	Sept. 6th, 1892.
Fair	19	19	Well isolated stone house on shore obtained for use as hospital.	None	None	None	Not adopted. *Adopted, July 22nd, 1893.*
Fair	No records		Ship purchased and in process of being fitted up as a floating hospital, at a cost of upwards of 1000*l.*, at date of Inspector's visit.	None	Provided in floating hospital.	None	Jan 17th, 1890.
No records kept. *Inspection of vessels carried out 1894.*			Small brick hospital provided on shore.	None	Provided at hospital.	None	March 1st, 1890.
Systematically performed.	261	317	Wooden hospital at Avonmouth with accommodation for 8 beds. At date of inspection a vessel was being fitted up to serve as a floating hospital. *Floating hospital equipped with accommodation for 30 patients and officers.*	Port authority have use of a steam disinfecting apparatus belonging to Bristol Urban Authority.	Provided at Avonmouth hospital.	Dec. 31st, 1888.	Not adopted.
No records			Two wooden hospitals provided, one at Sharpness erected in 1885 and one at Gloucester also originally erected in 1885 but removed to present site in 1892.	None	None	None	Not adopted. *Adopted, Sept. 26th 1893.*
Bad	None	None	An old stone-built house on the Chepstow bank of the Wye converted into a "hospital" for small-pox some years ago. Very unsatisfactory arrangements.	None	A shed in use as a tool house at "hospital."	None	Not adopted. *Adopted Nov. 6th, 1893.*
Good	59	59	Wooden hospital provided on shore with accommodation for 2 beds for cholera cases. Also row of three cottages with 11 rooms set apart for port hospital purposes.	None	Provided at "Port Hospital." None at cholera hospital.	None	Dec. 10th, 1889.

other sanitary offices.

TABLE IV.—

No.	Port Sanitary Authority.	Administration by Port Sanitary Authority.	Medical Officer of Health.		Inspector of Nuisances.	
			Annual Salary.	Character of Work.	Annual Salary.	Character of Work.
Col. 1.	2.	3.	4.	5.	6.	7.
48	CARDIFF - -	Good	*200*l.* without repayment.	Highly efficient.	91*l.* without repayment.	Very good
49	BARRY AND CADOXTON.	Good	*75*l.* with repayment.	Good	105*l.* with repayment.	Good
50	SWANSEA - -	Good and efficient.	*50*l.* with repayment.	Good	91*l.* with repayment,	Good
51	MILFORD - -	Not very satisfactory.	*25*l.* with repayment.	Fair	*15*l.* with repayment.	Unsatisfactory
52	CARDIGAN - -	Unsatisfactory	*4*l.* with repayment.	Efficient	*15*l.* with repayment.	Satisfactory
53	CARNARVON -	Improving	20*l.* with repayment.	Moderate	*20*l.* with repayment.	Fair
54	BEAUMARIS -	Fair	2*l.* 2*s.* without repayment and fees.	Satisfactory	*25*l.* without repayment.	Unsatisfactory
55	CHESTER - -	Satisfactory	*25*l.* with repayment.	Fair	30*l.* with repayment.	Not very satisfactory
56	LIVERPOOL - -	Satisfactory	*100*l.* with repayment. [One permanent Assistant Port Medical Officer with salary of 250*l.*] *Temporary Assistant Port Medical Officer appointed during Autumn months of 1893 and 1894.*	Highly efficient.	200*l.* with repayment. [Two Assistant Port Inspectors of Nuisances each with salary of 120*l.*]	Inadequate in past.
57	PRESTON - -	Improving	*10*l.* with repayment.	Satisfactory	None	None done

* This officer also holds

continued.

Inspection of Vessels for Nuisances.			Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
Observance of this Duty.	No. reported defective, 1892.	No. of Orders issued, 1892.					
8.	9.	10.	11.	12.	13.	14.	15.
Systematically performed.	813	813	Permanent stone building provided on Flatholm Island with accommodation for 4 beds. In addition double marquee with boarded floor, giving accommodation for 8 additional beds obtained. Two wards on Hamadryad hospital ship also at disposal of Port Authority for general port purposes apart from cholera.	Has the use of the Urban Authority's hot air chamber.	None	Oct. 26th, 1885.	Nov. 9th, 1889.
Systematically performed.	44	44	Wooden hospital belonging to Barry and Cadoxton Urban Authority.	None	None	None	August 12th, 1890.
Systematically performed.	378	378	Hospital constructed of wood and galvanised iron provided on shore with accommodation for 26 beds.	Washington Lyon's steam apparatus at hospital.	Provided at hospital.	None	By Swansea Corporation Act, 1889.
Bad	None	None	Hospital provided at Old Milford for port purposes. At date of inspection a brig had been purchased, which Port Authority proposed to fit up as a floating hospital. *Hospital ship fitted up 1894.*	None	None. *Provided on hospital ship.*	None	Jan. 1st, 1890.
Fair	No records		None - - -	None	None	None	Not adopted.
Fair	14	14	Accommodation for 12 beds at Carnarvon Urban Authority's hospital.	Hot-air apparatus at Urban hospital.	Mortuary erected on quay. [Apparently used as a tool house.]	None	Not adopted.
Unsatisfactory.	None	None	Old brig fitted up as a floating hospital, with accommodation for 4 beds.	None	None	None. *Approved, July 20th, 1894.*	Not adopted.
Apparently inefficient. *Efficiently carried out 1894.*	None	None	Building with accommodation for 4 beds provided on shore at Mostyn.	None	Provided at Mostyn Hospital.	None. *Approved, Oct. 26th, 1894.*	Not adopted. *Adopted, Oct. 18th, 1893.*
Efficient	468	?	Building of corrugated iron with accommodation for 24 beds erected at New Ferry in 1876.	Port Authority have use of disinfecting apparatus of Liverpool Corporation.	Provided at Port Hospital.	None. *Approved August 17th 1894.*	January 8th 1890.
Inefficient	6	6	Hospital on shore with accommodation for 14 beds in course of construction at date of inspection.	None. Urban Sanitary Authority possess hot-air chambers 1½ miles from docks.	None	None. *Approved April 12th, 1894.*	Under Preston Local Act.

other sanitary offices.

TABLE IV.—

No.	Port Sanitary Authority.	Administration by Port Sanitary Authority.	Medical Officer of Health.		Inspector of Nuisances.	
			Annual Salary.	Character of Work.	Annual Salary.	Character of Work.
Col. 1.	2.	3.	4.	5.	6.	7.
58	FLEETWOOD -	Not satisfactory.	*20*l*. with repayment.	Good	*30*l*. with repayment.	Fairly satisfactory considering time at his disposal.
59	LANCASTER - -	Unsatisfactory	*20*l*. with repayment.	Fair	*10*l*. with repayment.	Fair
60	WORKINGTON -	Unsatisfactory	20*l*. with repayment.	Fair	30*l*. with repayment.	Apparently efficient.

* This officer also holds

From a consideration of Table IV. it appears that *at the date of inspection* the *general administration* of twenty, or one-third only, of the Port Sanitary Authorities of England and Wales could be classed as "satisfactory," "good," "efficient," or "highly efficient." Pre-eminent amongst the Authorities who had appreciated their responsibilities were those of the River Tyne, Hull and Goole, London, Weymouth, Plymouth, Barnstaple, Bristol, Cardiff, Swansea, and Barry and Cadoxton, whilst the administration of the Port Sanitary Authority of Liverpool, which when inspected in 1892 had been regarded to be "most inefficient," was now classed as "satisfactory."

In twenty-one instances the administration was classed as "fair," "moderate," "not very satisfactory," &c., whilst the administration of nineteen, or nearly a third of the whole, was classed as "unsatisfactory," "lax," "inefficient," "indifferent," "highly inefficient," or "bad." In this last group were included the Port Sanitary Authorities of Cardigan, Chepstow, Cowes, Dartmouth and Totnes, Deal, Falmouth and Truro, Harwich, Hayle, Ipswich, Kingsbridge and Salcombe, Lancaster, Littlehampton, Newhaven, Sandwich, Teignmouth, Wells, Wisbech, Workington, and Yarmouth. Since the date of inspection a number of the defaulting Authorities have bestirred themselves, and would if re-visited doubtless be transferred from the lower into the higher classes.

The more important of the several matters connected with the general sanitary administration referred to in Table IV. may be briefly summarised as follows:—

Medical Officers of Health.—Great diversity was found to exist as to the salary paid to, and the character of the work performed by, the Port Medical Officers of Health. In the great majority of cases the Medical Officers of Health of one of the Urban or Rural Sanitary Authorities represented on the Port Authority has been appointed Port Medical Officer of Health with an increment to his salary for his port

continued.

Inspection of Vessels for Nuisances.			Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
Observance of this Duty.	No. reported defective, 1892.	No. of Orders issued, 1892.					
8.	9.	10.	11.	12.	13.	14.	15.
Doubtful	?	?	None. Site on shore for hospital obtained at date of inspection.	None. But Goddard and Massey's steam apparatus belonging to Fleetwood Urban Authority would be available.	None. *Provided at the Port Hospital.*	None	Not adopted. *Adopted May 10th, 1893.*
Fair	7	None	None. In 1892 the Port Sanitary Authority obtained permission to use a site on shore for hospital purposes "if necessary."	None	None	None	Not adopted.
Efficient	4	4	Wooden hospital erected on shore in 1885. Unfurnished at date of inspection.	None	None	None	Not adopted.

other sanitary offices.

duties. In very few districts has a medical practitioner not holding the appointment of Medical Officer of Health to some other Authority been appointed specially for port purposes at a fixed salary, and in only one Port Sanitary District, that of London, has the Port Medical Officer of Health to devote his whole time to his duties. In eight districts the salary paid was ascertained to be upwards of 50*l.* a year, in 28 districts the salaries varied from 20*l.* to 50*l.* a year, in 13 districts the salary was from 10*l.* to 15*l.*, whilst in the following 11 districts the fixed salary was less than 10*l.*, or no special renumeration was allotted :—Hayle (7*l.*), Wells, Sandwich and Padstow (5*l.*), Cardigan (4*l.*), Scilly Isles and Beaumaris (2*l.* 2*s.* and fees), King's Lynn (fees), Ipswich, Portsmouth, and Chepstow (no special salary allotted). When the duties which a Port Medical Officer of Health is expected to perform are considered (*see* Addendum C. 8) it is scarcely surprising that the work done by some of the officers receiving miserable pittances such as those quoted should be classed as unsatisfactory, and it is highly creditable to the officers themselves that many receiving totally inadequate renumeration should have been found to be performing their duties in a highly efficient and satisfactory manner.

Inspectors of Nuisances.—As with Medical Officers of Health so with Inspectors of Nuisances, great diversity was found to obtain with respect to their salaries and efficiency. In several of the larger ports a well trained staff of Inspectors were found to to be carrying out the routine duties of their office in a thoroughly efficient manner, as, for example, at London, with five Inspectors; Bristol, Hull and Goole, Cardiff, the River Tyne, and Liverpool, each with a staff of three Inspectors. At some ports, in consequence of the outbreak of cholera in Europe in 1892, temporary Assistant Inspectors had been appointed in the autumn of that year. With respect to the qualifications of the Inspectors of Nuisances the office was held in 25 districts by Urban Inspectors,

in 2 by ex-Urban Inspectors, in 7 by Harbour Masters, in 2 by ex-Customs Officers, in 2 by Lloyd's agents and in 15 districts by members of the seafaring class (ex-captains, mates, &c.). The salaries paid to the Port Inspectors of Nuisances varied from 200*l.* a year at Liverpool to nothing at Dartmouth. In 12 Port Sanitary Districts the Inspectors were paid salaries of 100*l.* and upwards; in 3 the salaries ranged from 50*l.* to 100*l.*; in 16 between 20*l.* and 50*l.*; whilst in 29 districts, or nearly half the whole, salaries of under 20*l.* a year were paid. Faversham, Exeter, Barnstable, Milford, Cardigan, (15*l.*); Littlehampton (10*l.* 10*s.*); Boston, Yarmouth Rochester, New Shoreham, Teignmouth, Falmouth and Truro, Padstow, Gloucester, and Lancaster (10*l.*); Newhaven (8*l.*); Wisbech (5*l.* 5*s.*); River Blyth, Deal, Kingsbridge and Salcombe, Penzance (5*l.*); Wells (3*l.*) and Ipswich, Sandwich, Dartmouth and Totnes, Chepstow, Hayle, and Preston (no special salary allotted). The duties which an Inspector of Nuisances is expected to perform will be gathered from a perusal of the Board's Order on the subject (see Addendum C. 9.), and it is not to be wondered at that the work of eighteen of the twenty-nine Inspectors receiving less than 20*l.* a year should be classed as "unsatisfactory."

Sanitary Inspection of Vessels and Abatement of Nuisances.—In a large number of districts these important duties were found to be as matter of routine efficiently carried out, but on the other hand in no less than one third of the total districts these duties were either most inefficiently performed or utterly neglected. The following are the districts found to be in default as regards the sanitary inspection of vessels:—Beaumaris, Boston, Chepstow, Chester, Cowes, Dartmouth and Totnes, Deal, Falmouth and Truro, Harwich, Hayle, Ipswich, King's Lynn, Milford, Portsmouth, Preston, River Blyth, Sandwich, Scilly Islands, Wells and Yarmouth. Subsequently to the Inspector's visit five of the above-named districts, viz., Cowes, Dartmouth and Totnes, Hayle, Ipswich and King's Lynn are stated to have carried out their statutory duties as to inspection of shipping.

Hospital Provision for General Infectious Diseases.—At the date of inspection forty-one Port Sanitary Authorities had made provision, either by themselves or by arrangement with neighbouring Authorities, for the isolation of ship-borne infectious disease other than cholera. In 19 districts there was, at the date of inspection, no provision available for the isolation of general infectious disease. Floating hospitals had been provided at the following ports:—River Tyne, Harwich, Colchester, Cowes (unfurnished), Dartmouth and Totnes (unfurnished), Plymouth, Barnstaple, Milford (unfurnished), and Beaumaris. In 31 districts more or less efficient provision had been made on shore—from fully-equipped hospitals at London and Weymouth to "two converted railway carriages" at New Shoreham. The 19 Port Sanitary Districts which at the date of inspection possessed no available means for the isolation of general infectious diseases were as follows:—River Blyth, Grimsby, Wells, Maldon, Rochester, Faversham, Sandwich, Deal, Littlehampton, Exeter, Teignmouth, Kingsbridge and Salcombe, Penzance, Hayle, Chepstow, Cardigan, Fleetwood, Lancaster and Workington.

Disinfecting Apparatus.—Comparatively few Port Sanitary Authorities were found to have provided themselves with efficient means for disinfection of clothing &c., but a certain number had made arrangements whereby the use of a disinfecting apparatus belonging to a neighbouring authority could be obtained. No less than 39 Port Authorities were

found to be unprovided with any proper means for securing the disinfection of infected articles.

Adoption of Regulations under Section 125 *of the Public Health Act*, 1875.—At the date of inspection nine Port Sanitary Authorities had drawn up and obtained the Board's sanction to regulations under this Section, namely, River Blyth, River Tyne, Hartlepool, Hull and Goole, Lowestoft, London, Fowey, Bristol, and Cardiff. Subsequent to the Inspector's visit regulations were drawn up and approved for the six following Port Sanitary Districts :—River Tees, Faversham, Beaumaris, Chester, Liverpool and Preston.

Infectious Disease (*Notification*) *Act*, 1889.—Prior to the date of inspection 30 Port Sanitary Authorities had adopted the Infectious Disease (Notification) Act, and 17 further Authorities adopted the Act subsequent to the Inspector's visit. In the following 13 Port Sanitary Districts this Act has apparently not yet been adopted:—Boston, Beaumaris, Bristol, Cardigan, Carnarvon, Ipswich, Kingsbridge and Salcombe, Lancaster, Littlehampton, Portsmouth, Scilly Islands, Wisbech, and Workington.

In Tables V. and VI. are given the main facts with respect to the port administration of the Riparian Sanitary Authorities, Urban and Rural respectively, reported upon in similar fashion to the manner in which the facts as to the administration of Port Sanitary Authorities have been shown in Table IV. In Tables V. and VI. notes with respect to general administration of the Sanitary Authority and as to the salary and character of work of the Medical Officers of Health and Inspectors of Nuisances have been omitted.

TABLE V.—General Administration of certain Urban Riparian

Statements in Italics refer to action entered upon by Urban

Number.	Urban Riparian Sanitary Authority.	Inspection of Vessels for Nuisances.		
		Observance of this Duty.	Number reported defective, 1892.	Number of Orders issued, 1892.
Col. 1.	2.	3.	4.	5.
1	Berwick-on-Tweed	None	—	—
		Inspection of shipping undertaken and carried out.		
2	Amble	None	—	—
3	Seaham Harbour	None	—	—
4	Whitby	None	—	—
		Inspection of vessels carried out by Inspector of Nuisances.		
5	Scarborough	None	—	—
6	Filey	None	—	—
		Inspection of vessels by Inspector of Nuisances ordered.		
7	Bridlington	Some	—	—
		During 1893 146 vessels inspected by Inspector of Nuisances.		
8	Southwold	None	—	—
9	Aldeburgh	None	—	—
10	Walton-on-the-Naze	None	—	—
11	Great Clacton	None	—	—
		Supervision of vessels by Inspector of Nuisances ordered.		
12	Herne Bay	None	—	—
13	Margate	None	—	—
14	Dover	Bad	None	None
		Regular inspection of vessels by Inspector of Nuisances carried out.		
15	Folkestone	Inefficient	4	4

Sanitary Districts of England and Wales at Date of Inspection.

Riparian Sanitary Authority in sequence to Visits of Inspector.

Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
6.	7.	8.	9.	10.
Wooden hospital for port cases. Accommodation for 4 beds.	Hot-air apparatus at hospital.	Provided at hospital.	None	December 4th, 1889.
None - - - - - - *Site for hospital on shore obtained.*	None	None	None	Not adopted.
Small hospital with accommodation for 2 beds, provided near docks.	None	None	None	October 25th, 1892.
Small temporary building near harbour acquired in 1892, with accommodation for 2 beds for cholera. Wooden hospital with 6 beds for diseases other than cholera.	None	Provided at wooden hospital.	None	March 25th, 1891.
Wooden building near harbour fitted up as a cholera hospital. Borough Infectious Diseases hospital with accommodation for 20 beds about a mile from harbour. *Additional room added to "Cholera Hospital" for use of nurse if required.*	Ramsome's hot-air apparatus at Borough Hospital.	Provided at Borough Hospital.	None	August 12th, 1889, under local Act.
None - - - - - -	None	None	None	Not adopted.
Three marquees purchased for purpose of temporary hospital provision, but no site obtained. *Site for hospital selected and plans for permanent building prepared.*	None	None	None	Not adopted.
None - - - - - -	None	Provided	None	July 16th, 1890.
None - - - - - - *Attempts made without result to obtain site for hospital.*	None	Provided	None	Not adopted.
None - - - - - -	None	Provided	None	January 1st, 1890.
Four shepherd's huts obtained for purpose of temporary cholera hospital provision if required.	None	None	None	Not adopted: *Adopted September 0th, 1893.*
Two cottages purchased for purpose of temporary hospital provision.	None	None	None	December 1st, 1889.
Isolation hospital with 44 beds provided in 1880.	Washington Lyon's steam apparatus.	None	None	April 1st, 1890.
Land hired in 1892 1½ miles from harbour as site for cholera hospital if such required.	Washington Lyon's steam apparatus provided.	Provided	None	October 15th 1889.
Two hospitals, (*a*) Sanatorium with accommodation for 16 beds, situate ½ mile from harbour; (*b*) Small-pox hospital with 4 beds, situate 1½ miles from harbour.	Fraser's hot-air chamber with low pressure steam recently added.	Provided	None	Nov. 6th, 1889.

TABLE V.—

Number.	Urban Riparian Sanitary Authority.	Inspection of Vessels for Nuisances.		
		Observance of this Duty.	Number reported defective, 1892.	Number of Orders issued, 1892.
Col. 1.	2.	3.	4.	5.
16	LYMINGTON	None	—	—
17	TORQUAY	None	—	—
18	NEWQUAY	None	—	—
		Regular inspection of vessels ordered.		
19	LLANELLY	Inefficient	—	—
		All vessels inspected by Inspector of Nuisances.		
20	KIDWELLY	None	—	—
21	CARMARTHEN	None	—	—
22	TENBY	None	—	—
		Vessels under inspection by Inspector of Nuisances.		
23	ABERYSTWITH	Inefficient	None	None
24	TOWYN	Some	2	2
		Inspector of Nuisances ordered to inspect all vessels entering district.		
25	YNYSCYNCHAIARN	Inefficient	None	None
		Regular inspection of vessels ordered.		
26	PWLLHELI	None	—	—
		Special Inspector appointed and all shipping examined.		
27	HOLYHEAD	None	—	—
28	BARROW-IN-FURNESS	Fair	No records	
29	MILLOM	Satisfactory since Autumn 1892.		
30	MARYPORT	Satisfactory	2	—
31	HOLME CULTRAM	None	—	—

continued.

Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act, 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
6.	7.	8.	9.	10.
None - - - - - -	None	None	None	July 1st, 1891.
Hospital erected in 1883 with accommodation for 20 beds, situate about 2 miles from landing stage.	Hot-air chamber at isolation hospital.	Provided	None	Under Torquay Harbour and District Act, 1886.
None - - - - - -	None	None	None	May, 1891.
Doecker hut with 8 beds provided in 1892 at Mackynis, ½ mile from harbour, dismantled at date of inspection. *Doecker hut re-erected near the Slag Bank, Carmarthenshire Dock District.*	Washington Lyon's portable steam apparatus-	None	None	August 7th, 1888, under Local Act.
None - - - - - - - *Site for hospital selected near quay.*	None	None	None	January 1st, 1893.
Room provided with 4 beds at Corporation buildings. *Site secured for erection of hospital.*	An imperfect hot-air apparatus.	Provided	None	June 20th, 1892.
Cottage rented in 1892 for hospital purposes but not fitted up.	None	Provided	None	Dec. 9th, 1889.
Old disused Corporation Harbour offices proposed for use as hospital. No fittings.	None	None	None	January 1st, 1890.
None - - - - - -	None	None	None	May 1st, 1890.
Small one-roomed cottage situate near mooring station, rented for cholera hospital purposes. No fittings. *Proposals made to use Cemetery Chapels for Hospital Purposes.*	None	None	None	April 1st, 1890.
None - - - - - -	None	None	None	March 1st, 1890.
Arrangements made for use of isolation ward (2 beds) belonging to private hospital on Salt Island.	None	Provided	None	Not adopted.
Wooden building with accommodation for 4 beds provided at Sheep Island near entrance to channel. No fittings. *Cholera hospital fully equipped.*	None	None at cholera hospital.	None. *Approved July 20th, 1894.*	October 28th, 1889.
Temporary cholera hospital provided in 1892 and fully equipped.	Washington Lyon's steam apparatus.	Provided	None. *Approved Nov. 21st, 1894.*	Nov. 5th, 1889.
None - - - - - - *On June 23rd, 1893, sanction given for a loan of 3,000l. for hospital provision, &c. Hospital since erected.*	None. *Steam disinfecting apparatus provided.*	Provided	None	April 1891.
Wooden hut in possession of Sanitary Authority which it proposes to erect "if necessary."	None	None	None	Not adopted. *Adopted, April 7th, 1894.*

TABLE VI.—General Administraton of certain Rural Date of

Statements in Italics refer to action entered upon by Rural

No.	Rural Riparian Sanitary Authority.	Inspection of Vessels for Nuisances.		
		Observance of this Duty.	Number reported defective, 1892.	Number of Orders issued, 1892.
1.	2.	3.	4.	5.
1	Belford	None *Inspection of vessels with a view to abatement of nuisances strictly carried out.*	—	—
2	Tendring	None *All vessels entering district regularly inspected by Inspector of Nuisances.*	—	—
3	Lexden and Winstree	None	—	—
4	Blean	Efficient	No records	
5	Llanelly	None	—	—
6	Narberth	None	—	—

From Tables V. and VI. it is clear that, except in the Barrow-in-Furness, Millom and Maryport Urban and the Blean Rural Riparian Sanitary Districts, the Port duties of the 37 Riparian Authorities with respect to routine inspection had been, *prior to the date of inspection*, utterly neglected. As regards isolation accommodation, 15 Urban and two Rural Riparian Districts were found to be totally unprovided whilst standing means for disinfection had only been provided in the Berwick-upon-Tweed, Scarborough, Margate, Dover, Folkestone, Torquay, Llanelly, Carmarthen, and Millom Urban Riparian Districts. In none of the Riparian Districts had any regulations been drawn up under section 125 of the Public Health Act, 1875, but subsequent to inspection, regulations under this Section were drawn up and approved for the Barrow-in-Furness and Millom Urban Districts. The Infectious Disease (Notification) Act, 1889, had been adopted prior to inspection in 24 of the Urban and in five of the Rural Riparian Districts; subsequent to inspection it was adopted in two of the Urban Districts and in one Rural District. The only Riparian Districts reported upon where it has apparently not yet been adopted are as follows:—Amble, Aldeburgh, Bridlington, Filey, and Holyhead.

(3.) SPECIAL ACTION UNDER THE BOARD'S CHOLERA ORDERS.

The special duties entrusted to Port and Riparian Sanitary Authorities with respect to cholera are laid down in the Board's General Cholera

RIPARIAN SANITARY DISTRICTS of ENGLAND AND WALES at INSPECTION.

Riparian Sanitary Authority in sequence to Visits of Inspector.

Hospital Provision.	Disinfecting Apparatus.	Mortuary.	Date of approval by Local Government Board of Regulations under Sec. 125 of Public Health Act. 1875.	Date of adoption of Infectious Disease (Notification) Act, 1889.
6.	7.	8.	9.	10.
Old granary fitted up in 1892 for purpose of cholera hospital; dismantled at date of Inspector's visit. *Two hospital tents purchased in 1894 for erection "if necessary."*	None	None	None	Feb. 6th, 1890.
Three Radcliffe marquees provided for temporary hospital purposes.	None	None	None	Jan. 1st, 1890.
None - - - - - *On June 9th, 1894 Sanitary Authority purchased two Radcliffe hospital tents with bell tent and van and necessary appliances for purposes of erection in any part of district when required.*	None	None	None	Jan. 1st, 1890.
Hospital at West End, Herne, 3½ miles from Whitstable Harbour; 11 beds; also hospital tents.	None	At hospital only.	None	Feb. 1st, 1890.
Galvanised iron building erected in 1884 to serve as Port Hospital accommodation for 4 beds.	None	None	None	March 25th, 1890.
None - - - - -	None	None	None	Not adopted. *Adopted Nov. 26th, 1894.*

Order of August 28th, 1890 (*see* Addendum C, No. 2), and in the Supplemental Cholera Order of September 6th, 1892 (*see* Addendum C, No. 3).

As these Orders provide for that system of "medical inspection" which has, in this country, been adopted in place of "quarantine," it will, I think, be advisable, before summarizing the provisions of the Orders, to point out the object aimed at by the "medical inspection of persons arriving on shipboard." These are (*i.*) the detection of persons *actually suffering* from cholera, their isolation in hospital, and the disinfection of their infected things; (*ii.*) the discovery of *sick persons probably suffering* from cholera, and the isolation and watching of such persons; and (*iii.*) the *notification* at the earliest possible time, to the Sanitary Authority of the district whither apparently healthy persons arriving on shipboard are bound. In short, by this system, the actual and suspected cases only are dealt with, and the earliest warning given to the Inland Authorities as to possible cases.

Under the General Cholera Order of August 28th, 1890, every Port or Riparian Sanitary Authority within whose district persons are likely to be landed from foreign must appoint a place for mooring ships infected with cholera and make provision for the reception of cholera patients and of persons suffering from illness which is suspected to be cholera. The mooring station must be some place within the jurisdiction of the Local Authority, unless the Local Government Board otherwise consent,

when a special Order is issued (see specimen Order, Addendum C, No. 7). When a Customs Officer on boarding a vessel finds that there has been a case of cholera on board (either during the voyage or during a stay in port in the course of the voyage) he must detain the vessel, order the master to anchor in a specified place (Art. 2), and give notice to the Port or Riparian Sanitary Authority of the place at which the ship is about to call (Art. 4). On receipt of this notice the Sanitary Authority is to cause the Medical Officer of Health to visit and examine the ship (Art. 7), or the Medical Officer of Health may on his own initiative visit and examine any ship coming from an infected port, (Art. 8). If he finds that there has been a case of cholera on board he must certify accordingly to the master (Art. 9), who thereupon is bound to moor in the place appointed (Art. 10). The Medical Officer of Health must then examine every person on board (Art. 12), none being allowed to leave the ship until the examination has been made (Art. 11). All who are found to be suffering from cholera are to be certified accordingly (Art. 12), and to be removed to the hospital or place provided by the Sanitary Authority if their condition admit of it, and must not leave such place until the Medical Officer of Health certifies that they are free from the disease. If they cannot be removed the ship remains subject to the control of the Medical Officer of Health without whose written consent the infected persons cannot leave the ship (Art. 13). Persons certified by the Medical Officer of Health, to be suffering from an illness which he suspects may prove to the cholera may be detained either on the ship or in some place provided by the Sanitary Authority for not more than two days, in order that it may be ascertained whether their illness is or is not cholera (Art. 14). No person not certified as above is to be permitted to land unless he satisfies the Medical Officer of Health as to his name, place of destination, and address at such place (Art. 12 as amended by Art. 1 of Order of September 6th 1892); and the Medical Officer of Health must give such names and addresses to the Clerk of the Sanitary Authority, who must transmit them to the Sanitary Authorities of the districts in question (Art. 12). The Medical Officer of Health must give directions and take such steps as appear to him to be necessary for preventing the spread of infection, and the master of the ship must carry out such directions as are given him (Art. 15). In the event of a death from cholera on board, the master must, at the direction of the Sanitary Authority either bury the body at sea, properly weighted, or deliver it to the Sanitary Authority for interment (Art. 16). He must destroy all articles soiled with cholera discharges; disinfect, and if necessary destroy, the clothing, bedding and other articles of personal use likely to retain infection which have been used by persons infected with cholera (Art. 17); disinfect the ship, and disinfect or destroy all articles therein probably infected with cholera, according to the directions of the Medical Officer of Health (Art. 18).

Under the Supplemental Cholera Order of September 6th, 1892, it is provided that where a ship is not infected with cholera but has passengers on board, who are in a filthy or otherwise unwholesome condition, the Medical Officer of Health may certify to the master that in his opinion it is desirable, with a view to checking the introduction or spread of cholera, that no person should be allowed to land until they have satisfied him as to their names and places of destination and addresses at such place (Art. II.). Thereupon the same measures are to be adopted as in the case of persons permitted to leave an infected ship (Art. III.). If the Medical Officer of Health has reason to believe that a ship is infected with cholera or has come from an infected port,

he may direct the bilge water to be pumped out before the ship enters any dock or basin, and, on the Sanitary Authority providing a proper supply of water for drinking and cooking purposes for persons on board, he may direct all casks and tanks on board containing water to be emptied and cleansed (Art. IV.).

The duties of Medical Officers of Health under the Cholera Orders have been very clearly set out in a Memorandum drawn up by Dr. Davies, the Medical Officer of Health of the Port Sanitary Authority of Bristol, and for the guidance of Medical Officers I reproduce it here.

"**CHOLERA REGULATIONS—PORT OF BRISTOL.**

"*Under the General Cholera Order* (*28th August*, 1890):"

"On arrival of any ship **infected with Cholera**, or suspected by Officers of Customs or by Medical Officer of Health to be infected with Cholera:—

"1. **Customs Officer** detains ship.

"2. **Medical Officer** inspects within twelve hours.

"3. If ship is infected, **Medical Officer** certifies accordingly.

"4. **Medical Officer** then examines every person on board, certifies any person suffering from Cholera or Choleraic Diarrhœa, and removes to hospital if condition admits of removal. If not, detains them for treatment on board ship.

"5. **Medical Officer** certifies any person suffering from disease which may prove to be Cholera, and detains them on board ship or in hospital for two days.

"6. Any othey persons not so certified shall not land unless they satisfy the Medical Officer as to their name place of destination, and address at such place.

"**Medical Officer** forwards all such names and addresses at once to Medical Officer of Health of the district in which the place of destination is situate.*

"7. **Medical Officer** causes the master of ship to take all measures to prevent spread of infection; to destroy by fire, as may be necessary, infected articles; and to secure proper disinfection of the ship and of any suspected articles.

"Penalty for Contravention or Obstruction, 50*l*.

"*Under the Supplementary Order* (*6th September*, 1892):

"(*a*.) When a ship is not "infected with Cholera," but HAS PASSENGERS ON BOARD WHO ARE IN A FILTHY OR OTHERWISE UNWHOLESOME CONDITION, OR HAS COME FROM A PLACE INFECTED WITH CHOLERA:—

"1. **Medical Officer** certifies accordingly.

"2. **Medical Officer** examines persons on board, obtains names and addresses, and forwards as before.

"(*b*.) When the **Medical Officer** has reason to believe that any ship is INFECTED WITH CHOLERA OR HAS COME FROM A PLACE INFECTED WITH CHOLERA:—

"1. He directs the bilge water to be pumped out before the ship enters any dock or basin.

"2. He directs all casks or tanks on board containing WATER FOR THE USE OF PERSONS ON BOARD TO BE EMPTIED, AND THE CASKS OR TANKS TO BE CLEANSED.

"Penalty for Contravention or Obstruction, 50*l*."

"* In the Order this communication is to be made through the Clerk of the Authority, in practice the Notice is more conveniently sent direct from the Medical Officer."

In judging the efficiency of the arrangements made by the Local Authorities to carry out these Orders the following points require attention :—

i. Customs arrangements as to boarding station, detention of vessels, and communication with Sanitary Authority.

ii. Port or Riparian Sanitary Authority's arrangements as to means of conveyance of Medical Officer of Health to vessels, selection of mooring station, provision of address book, hospital accomodation, ambulance, measures for disinfection of clothing

TABLE VII.—Action under the Board's Cholera Orders taken by

Statements in italics refer to action entered upon by

No.	Port Sanitary District.	Customs Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
1	River Blyth -	Fish Quay	By Pilots outside harbour.	By special messenger.	Customs boat	North side of river, below Steam Ferry.
2	River Tyne -	Mid-stream of river off North Shields.	Carried out at mooring station.	Cabin on hailing vessel at disposal of Port Medical Officers of Health, one of whom always on duty.	Steam launch. *A second steam launch purchsed in 1893.*	At Jarrow Slake
3	Sunderland -	At entrance to harbour near watch house on South Pier, and at south outlet of Sunderland Dock.	Ditto	Special messenger.	Open boat	South side of River Wear, 200 yards E. of Customs House.
4	Hartlepool -	(a.) Entrance to the North Basin. (b.) Entrance to Victoria Dock. (c.) Entrance to coal dock.	Ditto	Special messenger to Port Inspector of Nuisances who would then communicate with Medical Officer of Health.	Open boat hired	Centre of central dock; not satisfactory. *New mooring station fixed in Hartlepool Bay, 1893.*

and of ship, arrangements as to disposal of dead, and methods of dealing with drinking water and bilges.

iii. Medical Officer of Health's arrangements for inspecting vessels and for carrying out the provisions of the Cholera Orders generally.

In Tables VII., VIII., and IX. is given a summary of the results reported during the survey as to these several matters as regards Port Sanitary Districts, Urban Riparian Sanitary Districts, and Rural Riparian Sanitary Districts respectively.

the PORT SANITARY AUTHORITIES of ENGLAND and WALES in 1893.

Port Sanitary Authority in sequence to visits of Inspector.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out as regards all vessels from "infected ports."	Carried out.	None	None. *Hospital provided 1893, 20 beds.*	None	Burning	Corrosive sublimate, swabbing, and sulphur fumigation.	Ground set apart in burial ground.	Tanks emptied, and cleaned out with permanganate of potash. *After discharge of water from tanks, arrangements for fresh supply at expense of P.S.A.*	Pumped dry, and disinfected with corrosive sublimate solution.
Carried out.	Ditto	Provided	Floating hospital, 30 beds.	Steam launch	Sulphur fumigation or burning. *Steam disinfecting apparatus provided 1893.*	Corrosive sublimate, swabbing, and sulphur fumigation. *Special arrangements for flushing and spraying ships made, 1893.*	Buried in Jarrow Cemetery.	Tanks emptied, and cleansed. *Arrangements made for supply of fresh water at cost of P.S.A.*	Ditto.
Ditto	Ditto	None	None. *Floating hospital, 5 beds, provided 1893.*	None	Burning	Sulphur fumigation and corrosive sublimate swabbing.	Ground set aside in cemetery.	Tanks emptied, cleansed, and lime-washed	Pumped out, and disinfected with carbolic acid solution.
Ditto as regards all vessels from foreign. *In 1893 all vessels from Hull and Grimsby also inspected.*	Ditto	None	Port hospital, 22 beds.	Ship's boat.	Washington Lyon's steam apparatus.	Ditto	None. *Burial in Hartlepool Cemetery arranged for.*	Tanks emptied, cleansed, and fresh water supplied.	Ditto.

TABLE VII.—

No.	Port Sanitary District.	Customs Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
5	RIVER TEES -	(a.) Dock Point. (b.) Eston Jetty.	Carried out at boarding station.	Special messenger.	Steam launch	South side of River Tees 600 yards below Eston Jetty.
6	HULL AND GOOLE.	Hull roads, between entrances to Humber and Alexandra Docks. Vessels for Goole again boarded at entrance to dock at Goole.	Carried out at boarding station.	By telephone	Customs launch, or hired open boat. *Steam launch purchased 1893.*	White Booth Roads. *New mooring station between Nos. 6 and 7 buoys in the Humber sanctioned by special Order dated July 19th, 1893.*
7	GRIMSBY -	At ordinary times in the basin at entrance to Royal Dock. During autumn of 1892 in roads.	Carried out outside basin.	Special messenger or by telephone.	Open boat, or hired steam launch.	In the Humber off Grimsby near the middle light.
8	BOSTON - -	At Hobhole, about 3 miles from the port.	Carried out at entrance to dock.	By signal and mounted special messenger.	Hired launch or steam tug.	At Claypole, near mouth of harbour.
9	WISBECH - -	Entrance to River Nene Outfall Cut, opposite the lighthouses.	Carried out at Eye by Pilots.	Special messenger.	Hired pilot boat	At Wisbech Eye, about 9 miles from Sutton Bridge and 16 miles from Wisbech.
10	KING'S LYNN -	On River Ouse, between the south or upper end of March Estuary Cut and Purfleet Quay.	Carried out at Bell Buoy by Pilots.	Special messenger and telephone.	No arrangements made. *Steam launch provided.*	Between Bell Buoy and the Bar Flat.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Of "infected" vessels only. *Vessels from all "infected" ports, whether British or Foreign, inspected 1893.*	On board "infected" vessels only.	Provided	At temporary hospital at Seaton Snook, 12 beds.	Steam launch.	Burning	Sulphur fumigation and corrosive sublimate swabbing.	None	Tanks emptied, and treated with lime.	Pumped out, and disinfected with carbolic acid solution.
Carried out as regards all vessels from foreign. *And in 1893 as regards all coasting vessels in addition.*	Carried out.	Provided	Garrison hospital, 50 beds. *Floating hospitals provided at both Hull and Goole, 1893 26 beds.*	Hired boat. *Steam launch 1893.*	Hot-air stove and burning. *Washington Lyon's steam disinfecting apparatus provided 1893.*	Ditto	Burial in Corporation Cemetery.	Tanks emptied, cleansed, and limewashed, and fresh water supplied.	Pumped out in river, and disinfected with carbolic acid solution.
Carried out as regards "infected" vessels, and vessels from infected ports. *And from Oct. 3rd, 1893, until Nov. 23rd, all coasters likewise examined.*	Ditto	None	Floating hospital "Bradford."	None	Washington Lyon's steam apparatus or burning.	Ditto	Burial in Corporation Cemetery.	Tanks emptied.	Pumped out.
Carried out as regards "infected" vessels, or from "infected ports."	All persons on board "infected" vessels or from "infected ports."	None	In New Ward at Isolation Hospital; 3 beds.	By hired steam tug and ambulance.	Burning	Fumigation with sulphurous acid.	Burial in Skirbeck Churchyard.	Tanks emptied into sea.	None.
Carried out as regards all foreign coming vessels.	Carried out.	Provided	Port Hospital; 4 beds.	Ship's boat and stretcher.	Burning. *Fumigation chamber provided at Port Hospital.*	Fumigation with sulphur.	Burial in Sutton St. Matthew Churchyard.	None	None.
To be carried out as regards "infected" vessels, or from "infected ports." *53 vessels inspected 1893.*	Ditto	None. *Provided 1893.*	At Port Hospital.	Hired boat and ambulance.	Fumigation with sulphur. *Steam disinfecting apparatus purchased 1893.*	Ditto	Burial at cemetery.	Tanks to be emptied at Dock Head.	To be pumped out.

TABLE VII.—

No.	Port Sanitary District.	Custom Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
11	WELLS - -	Officially defined as "between the entrance to the harbour and the quay," but, as matter of practice, boarding carried out at Quay Head.	No arrangements made.	No proper arrangements made.	By steam tug at expense of Sanitary Authority.	Portion of channel, about 1½ miles from quay; not satisfactory.
12	YARMOUTH -	About 1 mile within the harbour.	Pilots detain vessels from "infected ports" outside harbour until Medical Officer of Health has boarded.	By special messenger as soon as vessel coming from foreign is sighted.	Hired boat. *Steam tug hired; also open boat provided.*	A mile out at sea to the south of Gorleston Pier.
13	LOWESTOFT -	Trawl market, Quay Head.	Pilots detain vessels outside.	Special messenger.	Hired boat	Outside the harbour, half-a-mile on either side of the Pier Head.
14	IPSWICH -	At Harwich between Walton Ferry and Harwich Lighthouse.	Special arrangements made whereby "infected" vessels are boarded by the Deputy Port Medical Officer of Health at Harwich, who accompanies the vessel to Butterman's Bay.	Custom House Officer at Harwich telegraphs to Custom House Officer at Ipswich, and the latter sends special messenger to Port Medical Officer of Health.	Ditto	Off Levington Creek, immediately below Butterman's Bay.
15	HARWICH -	Between Walton Ferry and Harwich Lighthouse is the official station, but regular passenger boats not boarded until they reach Parkeston Quay.	Carried out at Boarding Station.	Special messenger.	By Customs boat, or by boat belonging to P.S.A.	The portion of Harwich harbour next to Shotley, and lying between Shotley Gate and the entrance to the River Orwell.
16	COLCHESTER -	Off Brightlingsea	By pilots or coastguard at boarding station.	Ditto	Customs or Coastguard boat.	That part of the district bounded on the N. by an imaginary line drawn across the river ½-mile inside and parallel with the Southend Colne Fishery Buoy.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out as regards all vessels coming from foreign.	Carried out.	None	None	None	Burning	Fumigated with sulphurous acid.	Not arranged for.	Tanks to be emptied outside the harbour.	None. *Bilge water pumped out before vessels reach quay.*
Carried out as regards all vessels coming from foreign. *Inspection extended to coasters in 1893.*	Ditto	None	None. *Cholera hospital provided near mouth of harbour.*	None	Steam disinfecting apparatus.	Sulphur fumigation.	Ditto	Tanks emptied outside harbour. Fresh water supplied at cost of P.S.A.	Bilges emptied outside harbour.
Carried out as regards "infected" vessels or from "infected ports."	Ditto	None	At temporary hospital.	None	High pressure steam apparatus.	Ditto	No arrangements made.	Tanks emptied, and fresh water supplied at cost of P.S.A.	Pumped out.
Carried out as regards all vessels "infected," or from "infected ports."	Carried out.	Provided	Urban hospital. *Floating hospital 1893.*	Ship's boat and ambulance.	Burning	Fumigation with sulphur, scrubbing woodwork with chloride of lime and carbolic soap.	If on board ship, burial at sea. If on land, interment at cemetery.	Tanks emptied. Fresh supply at cost of P.S.A.	Pumped out, and disinfectd with corrosive sublimate.
Medical officer only inspects when sent for by Customs.	Carried out when sent for.	None	Floating hospital.	By boat	Burning	Sulphur fumigation, lime-washing, and swabbing with corrosive sublimate.	Buried at sea.	Tanks emptied. Fresh supply at cost of vessel.	Pumped out.
Carried out as regards all vessels "infected," or from "infected ports."	Carried out.	None	Hospital ship.	Ship's boat.	Burning	Sulphur fumigation, washing with corrosive sublimate.	No arrangements made.	Tanks emptied, and cleansed with Condy's fluid. Fresh water supplied at P.S.A.'s expense.	Pumped out, and disinfected with corrosive sublimate.

TABLE VII.—

No.	Port Sanitary District.	Customs Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Heath.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
17	MALDON - -	Below Stansgate	By Coastguard below Stansgate.	By special messenger or by telegram.	Coastguard's boat.	North side of Stone Hole in the River Blackwater.
18	LONDON -	(*a.*) For the Medway, Garrison Point. (*b.*) For Queenboro', Queenboro. (*c.*) For London-proper, Gravesend Reach, below the Custom House.	Carried out by Customs Officers.	Made direct by Customs before boarding at Gravesend. At other points by special messenger or by telegram.	Two steam launches.	In Gravesend Reach.
19	ROCHESTER -	Garrison Point	By Coastguard at Garrison Point.	Coastguard telegraphs to Customs at Rochester, and Customs send special messenger.	Steam launch of Medway Conservancy Board.	Quarantine ground in Stangate Creek.
20	FAVERSMAM -	Between the mouth of Faversham Creek and the Horse Buoy in the East Swale.	Carried out by Coastguard in East Swale, by Customs at Faversham.	Special messenger.	Hired boat	Upper part of the Beacon Ground.
21	SANDWICH -	At entrance of Sandwich Harbour.	By Coastguard at boarding station.	Ditto	By steam tug belonging U.S.A. when available; otherwise hired boat.	Nearly opposite Shellness Point.
22	DEAL -	In the Downs in open roadstead.	By Customs or Coastguard in the Downs.	Telephone or special messenger.	Hired boat	None fixed *Fixed by Special Order of the Board dated September 14th, 1894.*
23	NEWHAVEN -	Between the piers and the Customs Watch House.	By Customs Officer if sickness on board or by pilot outside harbour.	Special messenger.	Ditto	In a defined area outside harbour.
24	NEW SHOREHAM.	At the lock gates or the quays.	By Customs or Coastguard or pilots if sickness on board.	Ditto	Steam tug of Harbour Trustees or hired boat.	In River Adur ½ mile above entrance to harbour.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out as regards all vessels from foreign.	Carried out.	None	In tent.	Ship's boat.	Burning	Sulphur fumigation and washing with corrosive sublimate.	Burial at sea.	Tanks emptied, and cleansed with Condy's fluid.	Pumped out and disinfected.
Carried out as regards all vessels from ports scheduled by P.S.A.	Ditto	Provided	Port Hospital.	Steam launch decked boat and stretcher.	High pressure steam.	Sulphur fumigation and washing with percloride of mercury solution.	Interred at Gravesend Cemetery.	Tanks on vessels from scheduled ports emptied.	Bilges of vessels from scheduled ports pumped out and disinfected.
Carried out as regards all vessels "infected" or from "infected port."	Ditto	Provided	None. *Floating hospital 1893.*	— *Medway Conservancy launch.*	Boiling and use of liquid disinfectants.	Sulphur fumigation, washing, and use of liquid disinfectants.	In public cemetery.	Tanks emptied and fresh water supplied at cost of P.S.A.	Pumped out and disinfected.
Carried out only as regards vessels reported by Customs or Coast-guard.	As regards vessels with sickness on board only.	Provided	On barge	Hired boat.	None	Sulphur fumigation and washing with corrosive sublimate.	No arrangements made.	Tanks emptied, cleansed, and fresh water supplied at cost of P.S.A.	Ditto
Carried out as regards vessels "infected" or from "infected port."	Carried out.	None	None	None	Sulphur fumigation.	Sulphur fumigation and washing.	Ditto	Tanks emptied, and fresh-water supplied at cost of P.S.A.	Ditto
Carried out as regards vessels "infected" or from "infected ports."	Carried out.	None	None. *Temporary hut provided 1893.*	None	Steam disinfecting apparatus.	Sulphur fumigation and washing.	Ditto	No action taken.	Ditto
Arrangements for inspection imperfect. *Arranged for.*	Arrangements for inspection imperfect. *Arranged for.*	None	At Urban Hospital unsatisfactory. *Hospital with 20 beds provided.*	No boat; ambulance on land.	Sulphur fumigation and boiling.	Sulphur fumigation, washing, and disinfection.	If on ship board, burial at sea; if on land, interment at public cemetery.	Board's Order observed if necessary.	Board's Order observed if necessary.
Carried out as regards all vessels "infected" or from "infected ports."	Carried out.	None	At the "railway carriage hospital." *Hospital tent provided 1893.*	None	Sulphur fumigation and liquid disinfectants.	Sulphur fumigation and liquid disinfectants.	No arrangements made.	Tanks emptied, and fresh water supplied at cost of P.S.A.	Pumped out and disinfected.

TABLE VII.—

No.	Port Sanitary District.	Customs Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
25	LITTLEHAMPTON.	Alongside the Customs Watch house.	By Customs or by Pilots at boarding station.	Special messenger.	Usually walks on board from quay.	At Runcorn Piles above town of Littlehampton.
26	PORTSMOUTH -	Between Block-house Point and the north end of H.M. Dockyard.	By Customs or by Pilots outside harbour.	Ditto	Pilot boat. *Steamer hired.*	Not fixed *Fixed to E. of the Motherbank by Special Order of the Board dated October 27th, 1893.*
27	SOUTHAMPTON	(*a.*) Between Hamble Spit Buoy and Itchen Buoy. (*b.*) At Lymington Quay.	By Customs or Coastguard.	Ditto	Hired launch. *Steam launch purchased 1893.*	Southampton Water.
28	COWES - -	Cowes Roads	By Customs or by Pilots in Cowes roadstead.	Ditto	Customs boat or hired boat.	South-east of West Bramble Buoy.
29	POOLE - -	By day in channel leading to Poole Quay; by night at mouth of Poole Harbour.	By Customs or Coastguard at mooring station.	Ditto	Customs boat.	Suspected vessels in main channel; "infected vessels" in Wereham Channel.
3	WEYMOUTH	(*a.*) Portland Roads. (*b.*) Mouth of Weymouth Harbour.	"Infected vessels" detained by Customs or Coastguard.	Ditto	Customs steam launch.	At old Quarantine ground.
31	EXETER - -	Bight off Exmouth.	By Customs at boarding station.	By telegram	Customs boat or hired boat.	In upper part of Bight.
32	TEIGNMOUTH	At the Point	By Pilots outside harbour.	By Customs Officials direct.	Hired boat	At the two buoys nearest Shaldon Bridge.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out as regards vessels "infected" or from "infected ports."	Carried out.	None	None *Tents provided 1893.*	None	Sulphur fumigation and washing.	Sulphur fumigation and washing.	At Littlehampton Cemetery.	Tanks emptied fresh water supplied at cost of P.S.A.	Pumped out.
Carried out as regards all vessels "infected" or from "infected ports."	Ditto	Provided	Floating hospital.	None *Steamer hired.*	Hot-air apparatus.	Sulphur fumigation and liquid disinfectants.	Burial at sea.	Ditto	Pumped out and disinfected.
Ditto	Carried out where captain and doctor do not sign document to effect that no illness on board.	Ditto	Ditto	Ambulance boat *Steam launch purchased.*	Hot-air chamber. *Steam apparatus provided.*	Ditto	Interred at cemetery.	Ditto	Ditto.
Ditto	Carried out.	None	Hospital ship.	Boat	Sulphur fumigation and liquid disinfectants.	Ditto	Burial at sea.	Ditto	Pumped out.
Ditto	Ditto	None	Hospital on shore.	No water ambulance. land ambulance; *Boat provided.*	Destruction.	Sulphur fumigation.	In Poole Cemetery.	Ditto	Ditto.
Ditto, unless they have been 10 days at sea.	Ditto, unless they have been 10 days at sea.	Provided	Port Hospital.	Ships' boat and hand litter.	Dry-air apparatus.	Fumigation with carbon disulphide.	Burial at sea.	Ditto	Pumped out and disinfected.
Carried out as regards all vessels "infected" or from "infected ports.	Carried out.	Ditto	None	None	Burning	Sulphur fumigation.	At sea	Ditto	Pumped out.
Ditto	Ditto	Ditto	U. S. A. "hospital."	Hired boat.	Boiling or destruction.	Sulphur fumigation and washing.	Burial at sea.	Discharged before entering dock.	Ditto.

TABLE VII.—

No.	Port Sanitary District.	Custom Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
33	DARTMOUTH AND TOTNES.	Between mouth of harbour and Sandquay Point.	By Pilots at boarding station.	By Customs officials direct.	Customs boat or hired boat.	At the Range
34	KINGSBRIDGE AND SALCOMBE.	Off Salcombe	By Customs at boarding station.	Ditto	His own boat	In the Bug
35	PLYMOUTH -	Officially in the Sound; but in practice frequently inside the docks.	By Customs	Telephone	Customs launch or boat belonging to P.S.A. *Steam launch provided 1893.*	Old quarantine ground.
36	FOWEY - -	(*a.*) At Fowey, between old castles on either side of harbour. (*b.*) Charlestown, at entrance to dock. (*c.*) Looe, at entrance to tidal harbour. (*d.*) Pentuan, within the pier head. (*e.*) Mevagissey, at entrance to harbour.	At Fowey Pilots would detain vessels from "infected ports" outside boarding station. At other sub-ports Customs or Coastguard would detain vessels outside harbours.	No proper arrangements.	Rowing boat	Wiseman's Stone, about 1½ miles up Fowey River.
37	FALMOUTH AND TRURO.	In Falmouth Harbour.	By Customs or Coastguard in Falmouth Harbour.	By Customs Officers direct.	Customs launch or hired boat.	Old quarantine ground.
38	PENZANCE -	In roadstead half-a-mile from pier head.	By Customs or Coastguard at boarding station.	Special messenger.	Hired boat	Greavas Lake
39	ISLES OF SCILLY.	St. Mary's Roads.	Ditto	Telephone	Customs boat or hired boat.	Eastern side of southern end of Samson.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out as regards vessels "infected" or from "infected ports."	Carried out.	None	None. *Floating hospital provided 1893.*	None	None	None	Burial at sea.	Pumped out.	Pumped out.
Ditto	Ditto	Provided	None	None	Burning	Sulphur fumigation.	Ditto	Tanks emptied, and fresh supply at cost of P. S. A.	Ditto
Carried out as regards vessels from "infected ports" in Europe.	Ditto	None	Floating hospital.	By sailing boat or rowing boat belonging to P.S.A.	Destruction	Sulphur fumigation and washing.	Arrangements not made.	Tanks emptied.	Pumped out and disinfected.
Carried out as regards all vessels from "infected area."	Ditto	Provided	Port hospital.	Ambulance boat and litter.	Ditto	Sulphur fumigation.	Burial at sea.	Tanks emptied and cleansed; fresh water at expense of owners.	Ditto.
Carried out.	Ditto	Provided	Ditto	Ship's boat and ambulance.	Ditto	Ditto	Interment in cemetery.	Tanks emptied and cleansed; re-filled at expense of owners.	Ditto.
Ditto	Ditto	None	Hospital tent.	No means provided for water conveyance; ambulance on shore.	Ditto	Ditto	If on ship, burial at sea. If on shore, interment on land.	Tanks emptied.	Ditto.
No arrangements made. *Arranged for 1893.*	No arrangements made. *Arranged for 1893.*	None	At port hospital.	By boat drawn by steam tug.	Ditto	Ditto	If on board ship, buried at sea. If in hospital, interment on shore.	Would be changed if possible.	Ditto.

TABLE VII.—

No.	Port Sanitary District.	Customs Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
40	HAYLE	Inside Hayle harbour after passing the narrow passage.	By Customs in harbour.	Special messenger.	Customs boat or hired boat.	Below the Dynamite Station.
41	PADSTOW	Hawker's Cove	By Customs or Coastguard.	Ditto	Hired boat	Hawker's Cove near boarding station.
42	BARNSTAPLE	Off the watch-house at Appledore.	By Customs at boarding station.	By telegram or special messenger.	Boat provided	Braunton Sands
43	BRIDGEWATER	At Burnham between the pier and the lower light.	By Customs at Burnham for an hour or two. If longer detention required, vessels sent to anchorage at the Flat Holm.	Telegram by day, special messenger by night.	Hired boat	None fixed *Fixed near the Flat Holm by Special Order of the Board dated March 30th, 1893.*
44	BRISTOL	In King Road at the entrance to docks.	By Customs in King Road.	Special messenger or telephone.	Steam yacht	In King Road off Dumball Island.
45	GLOUCESTER	(*a.*) King Road (*b.*) At entrance to docks at Sharpness.	By Customs at boarding station.	By telegram or telephone.	None: but see notes under column 8.	King Road
46	CHEPSTOW	In river, off Chepstow.	Customs would detain vessel in river.	Special messenger	Hired boat	At Mathern Oaze
47	NEWPORT	Entrance to Alexandra Dock.	By Customs at boarding station.	Ditto	Hired steam tug	At the Spit, near the Light Ship.
48	CARDIFF	Basin at entrance to Cardiff and Penarth Docks.	By Customs, in the basin.	Special messenger, and telephone.	Steam tug	Half mile N.E. of the Flat Holm.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out	Carried out.	None	None	None	Destruction	Sulphur fumigation,	If on vessel buried at sea; if on land, buried in Phillack Churchyard.	Discharged outside harbour; nominal charge for fresh supply.	Pumped out and disinfected.
Ditto	Ditto	None	Port hospital.	Hired steam tug.	Ditto	Fumigation	Interment on shore.	None	Ditto.
Ditto	Ditto	None	Hospital ship.	Ambulance boat.	Ditto	Sulphur fumigation.	Interment on shore.	Water tanks emptied and fresh supply provided.	Ditto.
Ditto	Ditto	None	Port hospital.	Hired boat.	Burning	Sulphur fumigation and drenching with carbolic acid.	No arrangements made.	Tanks to be pumped out and cleansed.	Pumped out and cleansed.
Carried out as regards "suspected" vessels. *All vessels, foreign or coastwise inspected 1893.*	Ditto	Provided	Port hospital at Avonmouth. *Floating hospital provided 1893.*	Steam yacht and stretcher.	Washington Lyon's steam apparatus or burning.	Sulphur fumigation mercuric chloride for woodwork; carbolic acid for iron-work.	Burial at sea.	Tanks pumped out in King Road, cleansed, and fresh water supplied.	Pumped out in King Road and disinfected.
Carried out by officers of Bristol P.S.A.	Carried out by officers of Bristol P.S.A.	None	Port hospital.	Stretcher	Burning	Sulphur fumigation corrosive sublimate solution.	No arrangements made.	Dealt with by Bristol P.S.A.	Dealt with by Bristol P.S.A.
Arranged for.	Arranged for.	Addresses taken.	Port "hospital."	None. *Stretcher provided.*	Ditto	Sulphur fumigation.	Buried on shore.	Tanks emptied in river; fresh water supplied.	Pumped out and disinfected.
Carried out when sent for. *Every vessel from "infected" ports inspected 1893.*	Carried out when sent for.	Provided	Port cholera hospital. *Tent also obtained, 1893.*	Hired steam tug.	Ditto	Sulphur fumigation and washing with carbolic acid.	Not arranged for.	Tanks emptied outside docks, cleansed, and fresh water supplied at cost of P.S.A.	Ditto.
Carried out	Carried out.	Ditto	Port hospital on Flat Holm.	Steam tug.	Burnt in crematorium.	Sulphur fumigation and swabbing with corrosive sublimate.	Cremation on Flat Holm.	Tanks emptied, cleansed, and supplied with fresh water at cost of P.S.A.	Pumped out, and cleansed with sulphate of iron.

TABLE VII.—

No.	Port Sanitary District.	Customs Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
49	BARRY AND CADOXTON.	In dock	By Customs in dock.	Telegraph and special messenger.	Hired boat	Between Sully Island and Bendrick Rock.
50	SWANSEA -	Entrance to the docks.	By Customs outside dock.	Special messenger.	Four-oared gig. *Steam tug hired 1893.*	The Mumbles Roadstead.
51	MILFORD -	In the Haven in front of Milford.	- - -	No arrangement made.	None	Off Popton Point
52	CARDIGAN -	On the bar at the mouth of the River Teify.	If with sickness on board, at mooring station.	By Customs Officer personally.	Hired boat	In the bay off Penrhyn Castle.
53	CARNARVON -	At Brynglas, opposite Bell Tower of the Castle.	Customs detain vessels with sickness on board.	Special messenger.	Customs boat	In Menai Straits 1½ miles S.W. of Carnarvon.
54	BEAUMARIS -	The Cross Roads, N.E. of Beaumaris.	Arrangements made for M.O.H. to board with Customs all vessels from foreign.	Special messengers and telegraph.	Two-oared boat	None fixed. *The Cross Roads, Penmon.*
55	CHESTER -	(*a.*) Mostyn Road. (*b.*) Rhyl Roadstead.	By Customs at Mostyn Deep.	Telegram or special messenger.	None	Mostyn Deep
56	LIVERPOOL -	Usually at entrances to the several docks at date of inspection in river.	By Customs at quarantine boarding station.	Special messenger if necessary.	Customs launch	Sloyne
57	PRESTON -	In the outer basin at the dock entrance.	By Customs in outer basin.	Special messenger or telephone.	Corporation tug boat.	At No. 1 buoy outside the River Ribble.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out	Carried out.	Provided	Port cholera hospital. *At Cardiff Port Cholera hospital on Flat Holm from 1894.*	Hired boat.	Burning	Sulphur fumigation, and washing with corrosive sublimate.	No arrangements made. *Cremation on Flat Holm.*	Tanks emptied and cleansed; fresh water at cost of P.S.A.	Pumped out and disinfected.
Ditto	Ditto	Ditto	At Port hospital.	By boat and stretcher.	Burning or steam disinfection.	Sulphur fumigation, and liquid disinfectants.	Interment at cemetery.	Tanks emptied, cleansed, and fresh water supplied at cost of P.S.A.	Washed out with salt water.
Arranged for.	Arranged for.	Addresses kept.	None. *Hospital ship.*	None	Burning	Sulphur fumigation, and washing with disinfectants.	No arrangements made.	Tanks emptied, cleansed, and refilled at cost of P.S.A.	Pumped out and disinfected.
Carried out	Carried out.	Provided	None	None	Ditto	Sulphur fumigation.	Ditto	Tanks emptied and re-filled at cost of P.S.A.	Ditto.
Arranged for. *Carried out 1893.*	Arranged for. *Carried out 1893.*	None	In Urban hospital.	None	Ditto	Sulphur fumigation and lime-washing.	Ditto	Ditto	Ditto.
Arranged for. *Carried out as regards all vessels from foreign 1893.*	Arranged for.	None	Hospital ship.	None	Ditto	Sulphur fumigation and cleansing, with liquid, disinfectants.	Ditto	Tanks emptied, cleansed, and re-filled at cost of P.S.A.	Ditto.
Arranged for.	Arranged for.	Provided	At Port hospital, Mostyn.	In Iron-works Company's boat. *Stretcher provided 1893.*	Ditto	Sulphur fumigation and liquid disinfectants.	Ditto	Ditto	Pumped out.
Carried out	Carried out.	Ditto	Port hospital at New Ferry.	Ships boat or hired tug.	Ditto	Sulphur fumigation and carbolic acid.	Buried at sea.	Ditto	Pumped out and disinfected.
Arranged for. *Carried out as regards vessels coming coastwise 1893.*	Arranged for.	None	Port hospital.	None	Ditto	Sulphur fumigation and liquid disinfectants.	No arrangements made.	Tanks emptied outside dock.	Pumped out and disinfected outside dock.

TABLE VII.—

No.	Port Sanitary District.	Customs Arrangements.			Port	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
58	FLEETWOOD -	At entrance to dock.	By Customs at Lune Deep if possible, in other cases in dock.	Special messenger.	None	⅓ of mile from the N. E. of Fairway Buoy and from thence to No. 1 on N.W. Buoy of Lune.
59	LANCASTER -	Immediately outside Glasson Dock ; if known to be from infected port at No. 1 Buoy.	By Customs at mooring station.	Telegraph or special messenger.	Port Commissioners' steam launch.	Near No. 1. buoy at mouth of Lune. *Special Order sanctioning mooring station issued November 30th 1893.*
60	WORKINGTON -	At entrance to River Derwent.	Ditto	Special messenger.	None. *Boat arranged for 1893.*	Open sea, north of entrance to River Derwent.

TABLE VIII.—ACTION under the BOARD'S CHOLERA ORDERS taken by certain

Statements in italics refer to action taken by Urban Riparian

No.	Urban Riparian Sanitary District.	Customs Arrangements.			Urban Riparian	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	7.	7.
1	BERWICK - ON-TWEED.	Between Carr Rock and Ballast Quay.	Near boarding station.	Special messenger.	Open boat	Above Carr Rock
2	AMBLE - -	At the quay	Outside harbour	Ditto	In Harbour-Master's steam tug.	In river, at Higher Dolphins.
3	SEAHAM HARBOUR.	At entrance to docks.	By Customs at dry dock.	Ditto	Two tug boats	In Seaham Roads.
4	WHITBY - -	At the harbour	By Customs at mooring station.	Ditto	Customs or Coastguard boat.	In middle of the inner harbour.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Arranged for.	Arranged for.	Arranged for.	None. *Hospital, 4 beds, provided 1893.*	—	Burning	Chlorine or sulphur fumigation and liquid disinfectants.	No arrangements made.	Tanks emptied in Lune Deep.	Pumped out and disinfected in Lune Deep.
Ditto	Ditto	None	None	—	Ditto	Sulphur fumigation and liquid disinfectants.	Ditto	Tanks emptied before going into dock; fresh water sent from Lancaster.	Pumped out and disinfected.
Ditto	Ditto	Provided	Port hospital, Merchants' Quay.	None. *Boat arranged for 1893.*	Ditto	Sulphur fumigation and carbolic acid.	Ditto	Tanks emptied, cleansed, and refilled at cost of P. S. A.	Ditto.

URBAN RIPARIAN SANITARY AUTHORITIES of ENGLAND and WALES inspected 1893-94.

Sanitary Authority in sequence to visits of Inspector.

Authority's Arrangements.

Medical Inspection. of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Arranged for.	Arranged for.	Provided	Hospital, 8 beds.	Ship's boat and hand ambulance.	Burning	Sulphur fumigation and liquid disinfectants.	Buried parish cemetery.	Tanks emptied, cleansed, and refilled at cost of S.A.	Pumped out and disinfected.
Carried out.	Carried out.	Ditto	None	—	Ditto	Ditto	Burial on shore.	Tanks emptied in river.	Ditto.
Ditto	Ditto	None	Small hospital near docks.	Tug boat	None	Ditto	Interment on shore.	Tanks emptied, cleansed, and refilled at cost of U.S.A.	Ditto.
Arranged for.	Arranged for.	Arranged for.	Temporary hospital.	Ship's boat. *Land ambulance provided 1893.*	Burning	Ditto	Burial in Whitby Cemetery.	Ditto	Ditto.

TABLE VIII.—

No.	Urban Riparian Sanitary District.	Customs Arrangements.			Urban Riparian	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
5	SCARBOROUGH -	At the harbour	By Customs in the harbour.	Telephone and special messenger.	Hired boat	½ a mile seaward of the lighthouse pier.
6	FILEY - -	At the beach	By Coastguard	Special messenger.	None	[No foreign trade.]
7	BRIDLINGTON -	At the harbour	By Coastguard at mooring station.	Ditto	Hired boat	In Bridlington Bay, about 1½ miles N.E. of Bridlinglon. *Fixed by Special Order of Board dated December 7th, 1893.*
8	SOUTHWOLD -	The harbour at Walberswick.	No arrangements made.	Special messenger or telegram.	Ditto	[No foreign trade.]
9	ALDEBURGH -	Shingle Street at entrance to Haven.	By Pilots	Telegram	Coastguard's boat.	None fixe d
10	WALTON - ON - THE-NAZE.	None	By Coastguard	By letter	Hired boat	[No foreign trade.]
11	GREAT LACTON	None	Coastguard would detain.	Telegram	Ditto	Ditto
12	HERNE BAY -	None	Ditto	Ditto	Coastguard galley.	Ditto
13	MARGATE - -	Margate Harbour	By Coastguard	Special messenger.	Ditto	One mile north-east of Margate lighthouse.
14	DOVER - -	Officially, the outer harbour; practically, alongside Admiralty Pier.	By Customs, if sickness on board.	Telephone and special messenger.	Customs boat or hired boat.	In Dover Bay
15	FOLKESTONE -	In the harbour	Ditto	Telephone or special messenger.	None necessary as a rule. Hired boat.	One mile S. by W. of the harbour pier head.
16	LYMINGTON -	At Jack o' the Basket.	By Customs	Special messenger to Town Clerk.	None	Near Jack o' the Basket.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out. *As regards all vessels entering 1893.*	Carried out. *As regards all vessels entering 1893.*	None	Cholera hospital.	Ship's boat and stretcher.	Burning	Sulphur fumigation and liquid disinfectants.	No arrangements made.	Tanks emptied, cleansed, and refilled at cost of U.S.A.	Pumped out and disinfected.
Arranged for.	Arranged for.	None	None	—	Ditto	Ditto	Burial on land.	Ditto	Ditto.
Ditto *Carried out as regards all vessels entering 1893.*	Ditto	Provided	Tents	None	Ditto	Ditto	Burial in Bridlington Cemetery.	Ditto	Ditto.
None	None	None	None	None	None	None	No arrangements made.	No arrangements made.	No arrangements made.
None	None	None	None	—	None	None	Not arranged for.	None	None.
Arranged for.	Arranged for.	None	None	—	Burning	Sulphur fumigation and washing with Sanitas.	Burial in churchyard.	Arranged for in accordance with Board's Order.	Arranged for in accordance with Board's Order.
Ditto	Ditto	None	Shepherd's huts.	None	Ditto	Sulphur fumigation and washing with liquid disinfectants.	No arrangements made.	None	Arranged for.
Ditto	Ditto	None	None	—	Ditto	Ditto	Burial at sea.	Tanks emptied and disinfected.	Pumped out and disinfected.
Ditto	Ditto	None	In scavenger's house.	Ship's boat to shore. Town ambulance.	Steam disinfecting apparatus.	Sulphur fumigation.	If on shore in cemetery; if on ship, at sea.	Ditto	Pumped out.
Carried out	Carried out as regards persons actually suffering from illness.	None. *Arranged for 1893.*	None	—	Ditto	Sulphur fumigation and liquid disinfectants.	Burial in cemetery.	Tanks emptied, cleansed, and refilled at cost of U.S.A.	Pumped out and disinfected.
Ditto	Carried out only in cases of persons suffering from suspicious illness. *Carried out in all cases during 1893.*	None	None for cholera.	—	Hot-air chamber.	Ditto	Burial at public cemetery.	Arranged for.	Arranged for.
None	None	None	None	None	None	None	No arrangements made.	None	None.

TABLE VIII.—

No.	Urban Riparian Sanitary District.	Customs Arrangements.			Urban Riparian	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
17	TORQUAY - -	Within the harbour.	Outside harbour	Special messenger.	Open boat	A mile from harbour mouth.
18	NEWQUAY -	In the harbour	No arrangements made.	None made	None	[No foreign trade.]
19	LLANELLY -	Ordinarily in the Harbour; for cholera purposes No. 7 Buoy.	Detained by Pilot at No. 7 buoy.	Special messenger.	Steam launch belonging to Harbour Commissioners.	No. 7 Buoy
20	KIDWELLY -	At entrance to dock.	No arrangements made.	None	None	In main channel half a mile from the quay.
21	CARMARTHEN -	Off Ferry Side in the river Towy.	No arrangements made.	Telegram to Town Clerk.	None	None fixed *Fixed by special Order of Board dated September 4th, 1893.*
22	TENBY - -	In Caldy Roads	By Coastguard	Special messenger.	Hired boat	None fixed. *Fixed in Caldy Roads. Special Order of Board dated*
23	ABERYSTWITH -	At the junction of the Rivers Reidol and Ystwith.	By Customs, if infected.	Ditto	Boat belonging to Harbour Authority.	At junction of Rivers Reidol and Ystwith.
24	TOWYN - -	In the River Dovey.	By Customs, if illness on board.	None	Hired boat	None fixed. *Fixed 1893.*
25	YNYSCYN-HAIARN.	At Pwllglanymor, about a mile inside the Bar.	By Pilots at boarding station.	By special messenger to Deputy M.O.H.	Ditto	At Pwllglany-mor.
26	PWLLHELI -	None	None	Messenger to Inspector of Nuisances.	None	None fixed. *Mooring station fixed 1893.*
27	HOLYHEAD -	In the harbour	By Customs at mooring station.	Special messenger or telegram.	Hired boat	In the harbour
28	BARROW - IN - FURNESS.	Entrance to Ramsden Dock.	By Customs in the dock.	Telephone or special messenger.	Not required as a rule. Hired boat.	In Piel Channel to N.E. of Piel Island.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of Dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on Board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out	Carried out if actual sickness on board.	None	Urban isolation hospital.	None	None	None	No arrangements made.	None	None.
Arranged for.	Arranged for.	None	None	None	None	Sulphur fumigation and liquid disinfectants.	Ditto	Tanks emptied, cleansed, and refilled at cost of U.S.A.	Pumped out and disinfected.
Carried out.	Carried out. *Carried out as regards all vessels from foreign and coasters from "infected ports" 1893.*	Provided	Hut hospital.	Steam launch.	Washington Lyon's steam apparatus.	Fumigation with sulphur and lime washing.	Ditto	Tanks emptied and refilled at expense of U.S.A.	Pumped out and cleansed with sea water.
Arranged for.	Arranged for.	None	None	—	Burning	Sulphur fumigation and liquid disinfectants.	Ditto	Arranged for.	Arranged for.
None	None	None	None	—	Ditto	Sulphur fumigation and lime washing.	Ditto	No action	No action.
Arranged for.	Arranged for.	None	None	—	Ditto	Sulphur fumigation, and liquid disinfectants.	Ditto	Arranged for.	Arranged for.
Ditto	Ditto	None	None	—	Ditto	Ditto	Not arranged for.	Ditto	Ditto.
Ditto	Ditto	None	None	—	Ditto	Ditto	Ditto	Ditto	Ditto.
Ditto	Ditto	Arranged for.	In cottage	None	Ditto	Ditto	Burial on shore.	Ditto	Ditto.
None	None	None	None	—	None	None	No arrangements made.	None	None.
Arranged for.	Arranged for.	Addresses kept.	Hospital on Salt Island.	Ship's boat, or hired boat.	Burning	Sulphur fumigation and liquid disinfectants.	No arrangements made.	Arranged for.	Arranged for.
Carried out	Carried out.	None	Hospital on Sheep Island.	Ship's boat.	Ditto	Ditto	Burial on shore.	Tanks emptied in dock, cleansed, and refilled.	Pumped out outside dock.

TABLE VIII.—

No.	Urban Riparian Sanitary District.	Customs Arrangements.			Urban Riparian	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
29	MILLOM - -	None	By Customs	Telephone	Hired boat	Between Hodbarrow Pier and the Ironworks.
30	MARYPORT -	At Senhouse Dock.	By Customs, in dock.	Special messenger.	Harbour tug or hired boat.	Between 1 and 2½ miles off and to the north of Maryport.
31	HOLME CULTRAM.	At pierhead, near entrance to dock.	By Customs	Telegram or special messenger.	Hired boat	In Silloth Channel.

TABLE IX.—ACTION under the BOARD'S CHOLERA ORDERS taken by certain RURAL

Statements in Italics refer to action entered upon by Rural

No.	Rural Riparian Sanitary District.	Customs Arrangements.			Rural Riparian	
		Boarding Station.	Detention of Vessels.	Communication with Medical Officer of Health.	Conveyance of Medical Officer of Health to Vessel.	Mooring Station.
1.	2.	3.	4.	5.	6.	7.
1	BELFORD -	North Sunderland Pier.	By Coastguard at outer harbour.	Telegram or special messenger.	Hired boat	None fixed. *Fixed West of Farne Islands 1893.*
2	TENDRING -	None	No definite arrangements.	None	None	[No foreign trade.]
3	LEXDEN AND WINSTREE.	None	No arrangements made.	Telegram	None	[No foreign trade.]
4	BLEAN - -	Whitstable Bay.	By Customs at boarding station.	Telegram or special messenger.	Hired boat.	In the East Swale. (Special Order of Board, 21st July, 1893).
5	LLANELLY -	Ordinarily at "Dock Head," if from "infected port" at No. 7 Buoy.	By Customs at boarding station.	Telegram.	Steam launch of Harbour Commissioners.	No. 7 Buoy in Burry Channel.
6	NARBERTH -	None.	By Pilots outside harbour.	Messenger.	Hired boat.	In Bay 1 mile from Monkstone.

continued.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8	9.	10.	11.	12.	13.	14.	15.	16.	17.
Arranged for. *Carried out as regards all vessels entering district 1893.*	Arranged for.	None	Cholera hospital.	Horse ambulance and stretcher.	Washington Lyons steam apparatus.	Sulphur fumigation and liquid disinfectants.	No arrangements made.	Arranged for.	Arranged for.
Arranged for.	Arranged for.	None	None *Urban hospital.*	— *Steam barge.*	None *Steam disinfecting apparatus provided.*	Ditto	Ditto *Arranged for 1893.*	Ditto	Ditto.
Ditto	Ditto	None	None	—	Burning	Ditto	No arrangements made.	Ditto	Ditto.

Riparian Sanitary Authorities of England and Wales, inspected 1893–94.

Riparian Sanitary Authority in sequence to visits of Inspector.

Sanitary Authority's Arrangements.

Medical Inspection of		Address Book.	Isolation of Sick.	Conveyance of Sick from Vessel to Hospital.	Disinfection of		Disposal of Dead.	Methods of dealing with	
Vessels.	Persons.				Clothing.	Ship.		Drinking Water on board Ship.	Bilges.
8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
Carried out.	Carried out.	None	In "Old Granary."	Hired boat.	Burning	Sulphur fumigation and liquid disinfectants.	No arrangements made. *Burial on shore arranged for.*	Arranged for.	Arranged for.
Arranged for.	Arranged for.	Arranged for.	Tent	None	Ditto	Ditto	Ditto	Ditto	Ditto.
Ditto	Ditto	None	None *Tents provided 1893.*	None	Ditto	Ditto	Ditto	Ditto	Ditto.
Carried out.	Carried out "if necessary." *Carried out as regards all vessels from foreign 1893.*	None	Rural hospital or tents.	Hired boat.	Boiling	Ditto	Ditto	Tanks emptied, cleansed, re-filled at cost of R. S. A.	Pumped out outside harbour
Arranged for as regards "infected" vessels only.		None	Hospital hut.	None. *Ambulance provided 1893.*	Burning	Ditto		—	Arranged for.
Arranged for.		None	None	None	Ditto	Ditto	Ditto	Arranged for.	Ditto.

From a consideration of Tables VII., VIII. and IX. it is apparent that both the Port and Riparian Sanitary Authorities were found *at the date of inspection in* 1893–94 in a much better state of preparedness to carry out their special duties under the Cholera Orders than they were to perform the routine duties devolving upon them under the Public Health Acts. This was no doubt partly due to the dread of cholera and partly to the effects of the emergency survey which had been carried out in 1892 and at which especial care had been taken to instruct the Sanitary Authorities and their officials as to their duties under the Cholera Orders.

With respect to the several points referred to in the Tables it will be noted that as regards both the Port and Riparian Sanitary Districts the Customs arrangements as to *boarding station, detention of vessels and notification of the Sanitary Authority* were on the whole found to be satisfactory. In a particular instance where it had been the custom for the boarding of vessels to take place at the entrance to the docks or alongside quays in the vicinity of shipping and dwellings, special arrangements were made, during the period when cholera was prevalent in Western Europe, for the boarding to take place at some distance from the docks.

The means provided by the respective Port Sanitary Authorities for the *conveyance of the Medical Officer of Health to vessels* were found to be diverse in character, as will be observed from the following summary table :—

Means of Conveyance provided.	Sanitary Authority.		
	Port.	Urban Riparian.	Rural Riparian.
Steam launch belonging to Sanitary Authority	5	—	—
Steam launch hired by Sanitary Authority	5	—	—
Steam launch or tug lent to Sanitary Authority by Harbour Commissioners &c.	5	4	1
Customs launch	4	—	—
Customs or Coastguard boat	12	5	—
Open boat belonging to Sanitary Authority	6	2	—
Hired open boat	14	14	—
Hired pilot boat	2	—	—
No arrangement made	7	6	2
	60	31	6

The following are the Port Sanitary Districts where no arrangement had apparently been made at the date of inspection :—Kings Lynn, Gloucester, Littlehampton, Milford, Chester, Fleetwood and Workington. As regards Gloucester, however, it is to be observed that the medical inspection of vessels was carried at by the Bristol Port Sanitary Authority before the vessels reached Gloucester. In the following Riparian Sanitary Districts also no arrangements for the conveyance of the Medical Officer of Health had apparently been made :—Urban—Pwllheli, Carmarthen, Kidwelly, Newquay, Lymington, Filey. Rural—Tendring, Lexden and Winstree.

Mooring Station.—Mooring stations were found to have been fixed in all the Port Sanitary Districts, with the exception of those of Deal,

Portsmouth, Bridgewater and Beaumaris. The mooring stations at Hartlepool, Hull and Goole, and Lancaster were not regarded as satisfactory. Subsequent to the inspection, new mooring stations have been fixed at Hartlepool, Hull and Goole (Special Order, July 19th, 1893) and Lancaster (Special Order, November 30th, 1893) in place of the unsatisfactory stations referred to above. Mooring stations have also been fixed at Beaumaris, Bridgewater (Special Order, 30th March 1895), Deal (Special Order, 14th September 1894), and at Portsmouth (Special Order, 27th October 1893). In all the Urban and Rural Riparian Sanitary Districts having communication with foreign, mooring stations had been fixed, with the exception of the following five Urban districts:—Aldeburgh, Carmarthen, Tenby, Towyn, Pwllheli. Subsequent to the inspection mooring stations have been fixed at Carmarthen (Special Order, September 4th, 1893), Tenby (Special Order, 9th November 1894), Towyn and Pwllheli.

Cholera Hospital Provision.—At the date of inspection isolation provision of one or another sort *for cholera* had been provided in 44 Port Sanitary Districts and subsequent to inspection provision was made in nine further districts. The only Port Sanitary Districts where no provision was apparently made are as follows:—Cardigan, Exeter, Hayle, Kingsbridge and Salcombe, Lancaster, Sandwich and Wells. In the Urban Riparian Sanitary Districts provision had been made for the isolation of cholera in 13 districts, and subsequent to the inspection provision was made in one other district, leaving 17 districts in which apparently no provision was made, viz. Aberyswith, Aldeburgh, Amble, Carmarthen, Dover, Filey, Folkstone, Herne Bay, Holme Cultram, Kidwelly, Lymington, Newquay, Pwllheli, Southwold, Tenby, Towyn and Walton-on-the-Naze. In the Rural Riparian Districts isolation provision for cholera was made in four districts prior to, and in one after, inspection, leaving one rural district only—Narberth, in which no provision was apparently made.

Ambulance Boat.—Special means for the conveyance of the sick from ship to hospital by water were found to have been provided in the following Port Sanitary Districts:—River Tyne, River Tees, London, Southampton, Plymouth, Fowey, Barnstaple, Bristol, and Cardiff, and subsequent to inspection special means of conveyance were also provided at Portsmouth, Hull and Goole, and Poole. In other cases the Port Sanitary Authority relied upon obtaining the use of the ship's boat or of a hired boat for the purpose. In none of the Riparian Sanitary Districts had any special means of conveyance been provided.

Disinfection of Cholera-infected Clothing, &c.—The great majority of the Port and Riparian Authorities proposed to deal with infected clothing, &c., by burning. At the date of inspection, a high-pressure steam disinfecting apparatus was available at each of the following Port Sanitary Districts:—Hartlepool, Grimsby, Yarmouth, Lowestoft, London, Deal, Bristol, and Swansea, and subsequent to inspection the following Port Districts were likewise each supplied with steam apparatus:—River Tyne, Hull and Goole, King's Lynn, and Southampton. At Wisbech a "fumigation chamber" had been provided, and at Weymouth and Portsmouth disinfection was accomplished in a hot air apparatus. At Cardiff a crematorium was erected for the purpose of destroying infected articles. In the Riparian Sanitary Districts there were standing means of disinfection available at Margate, Dover, Llanelly, Millom, and Folkestone, and, subsequent to inspection, at Maryport.

Disinfection of Ships.—In almost all cases the methods relied upon for the disinfection of vessels was the fumigation of the ship with sulphur and the subsequent swabbing of the woodwork with a solution

of corrosive sublimate or of carbolic acid. At the River Tyne Port a special apparatus for spraying vessels with disinfecting solution was provided on a floating hulk.

Arrangements as to the Disposal of the Dead.—The following is a summary of the arrangements made at the date of inspection for the disposal of the dead, by Port, Urban and Rural Riparian Sanitary Authorities respectively :—

Method of Disposal.	Sanitary Authority.		
	Port.	Urban Riparian.	Rural Riparian.
Burial at sea - - - - -	13	1	—
Interment on shore - - - -	17	11	1
Burial at sea if death on board ship; interment on land if death on shore. - -	5	1	—
Cremation - - - - -	1	—	—
No arrangements made - - - -	24	18	5
	60	31	6

This Table calls for little comment; it may, however, be noted that the Cardiff Port Sanitary Authority proposed to cremate all bodies of persons dying from cholera in their district. In nearly all cases satisfactory arrangements for the disposal of the dead were made at the final conference of the Inspectors with the Local Authorities.

Action under the Board's Order of September 6th, 1892, as to Water Supply and Bilges.—In all the Port Sanitary Districts, with the exception of Deal, Padstow, and Wisbech, satisfactory arrangements had apparently been made as to the emptying and cleansing of water tanks. Arrangements had also apparently been made to secure the pumping of bilges at all the Port Sanitary Districts except Boston, Wells, and Wisbech. Of the Urban and Rural Riparian Authorities arrangements were stated to have been made as to emptying of water tanks at all, with the exception of Aldeburgh, Carmarthen, Great Clacton, Lymington, Pwllheli, Southwold, and Torquay. The above-named list of Urban Riparian Authorities, with the exception of Great Clacton, had also apparently neglected to take any steps to secure the pumping of bilges.

Medical Inspection of Vessels and Persons.—The duties devolving upon Medical Officers of Health, with respect to the inspection of vessels and of persons whether "infected" or from "infected ports," were found on the whole to have been performed in a satisfactory manner. The only districts in which, at the date of inspection, the arrangements made for carrying out of the inspection of vessels were found to be unsatisfactory were those of Harwich, Faversham, Newhaven, Isles of Scilly, and Newport. Subsequent to the visit of the Board's Inspector, medical inspection was undertaken at Newhaven, the Isles of Scilly, and Newport. In all the Urban and Rural Riparian Sanitary Districts medical inspection was reported to have been satisfactorily arranged for and carried out, except in the Aldeburgh, Carmarthen, Lymington, and Pwllheli Urban Riparian Districts.

In many of the more important Port Sanitary Districts, where medical inspection was efficiently carried out, it is impossible to speak too highly of the energy and devotion to duty displayed by the Medical Officers of Health. The work was for a long period, during each of

the years in which cholera threatened our shores, almost continuous, and demanded the constant attention of these officers by night as well as by day. In this connexion the excellent character of the work of the Medical Officers of Health of the Port Sanitary Districts of London, River Tyne, Hull and Goole, Southampton, Weymouth, Plymouth, Bristol, Cardiff, Swansea, Barry and Cadoxton, and of Liverpool deserve special mention.

From the fore-going notes it is clear as regards cholera that the majority of the Port and Riparian Authorities were fairly well prepared to deal with that disease at the date of inspection, but that on the other hand a certain number of the Authorities had not appreciated their responsibilities and were not prepared to deal with it.

From a consideration of the general results of the Coast-line Survey, instituted by the Board, it is apparent that, whilst prior to the visits of the Inspectors of the Central Department, many Port and Riparian Authorities had in great measure failed to appreciate the responsibilities devolving upon them with regard to either the health of persons on ship-board or to the protection of the inland districts from the importation of disease; there was subsequent to inspection and conference an enormous improvement in respect of these matters. There can, I think, be no question as to the great advantages which have resulted from this Survey, not only directly to the districts inspected, but also indirectly to the country at large.

DETAILED REPORTS WITH RESPECT TO PORT AND RIPARIAN SANITARY DISTRICTS INSPECTED 1893-94.

SECTION I.

Customs Ports of Berwick, North Shields, Newcastle, and South Shields.

Illustrated in Map. I.

Limits of Customs Ports.

(1.) *Berwick.*

The limits of the said Port shall commence at the promontory or point of land called "St. Abbs' Head," being the southern limits of the Port of Leith, and shall extend from thence along the coasts of the Counties of Berwick and Northumberland to "Seaton House Point," about one mile north of the River Aln in the latter County, being the northern limits of the Port of Shields, and shall include Holy Island, Fairn or Fern Island, and the adjacent lesser islands, and shall [extend seaward, a distance of three miles from low-water mark, and shall include all other islands, bays, harbours, rivers, and creeks within the aforesaid limits.]*

Date of Treasury Warrant, 6th day of January 1860.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary District of Berwick-upon-Tweed, and certain Riparian Parishes of the Rural Sanitary Districts of Berwick, Belford, and Alnwick. Of these several districts, the shipping trade is practically confined to the Urban Riparian District of Berwick-upon-Tweed, and to one Parish (North Sunderland) which is in the Belford Rural District. Reports as to these districts will be found at pages 80 and 83 respectively.

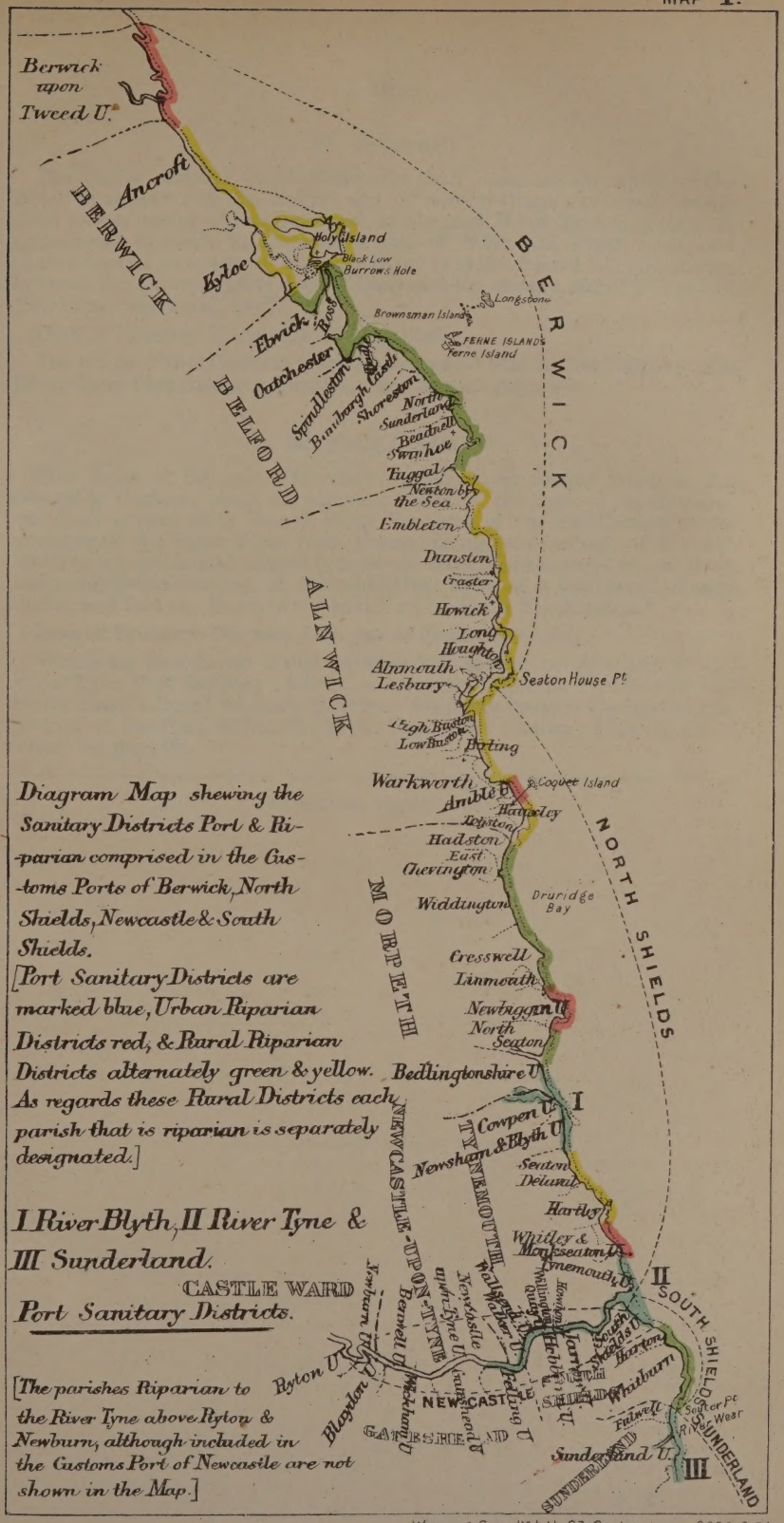
(2.) *North Shields.*

The limits of the said Port shall commence at Seaton Point, about one mile north of the River Aln, in the County of Northumberland (being the southern limits of the Port of Berwick), and shall extend from thence along the coast of the said County to the entrance of the River Tyne, from thence along the mid-channel of the said River to the eastern end of Whitehill Point, in the said County, comprising so much of the said River as is northward of mid-stream between the said entrance and eastern end of Whitehill Point, and that the limits of the said Port of North Shields shall*

Date of Treasury Warrant, 16th day of September 1865.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of the River Blyth, a part of the Port Sanitary District of the River Tyne, the Urban Riparian Districts of Amble, Newbiggin-next-the-Sea, and Whitley and Monkseaton, and certain Riparian Parishes of the Rural Sanitary Districts of Alnwick, Morpeth, and Tynemouth. Of these several districts, the shipping trade is practically confined to the two Port Sanitary Districts of the Rivers Blyth and Tyne, and to the Urban Riparian District of Amble, with regard to which districts reports will be found at pages 89, 96, and 86 respectively.

* Words to the effect of those within brackets, but modified when necessary to meet the circumstances of a particular case, are contained in nearly all orders issued to other ports.



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(3.) *Newcastle.*

The limits of the Port of Newcastle shall comprise the whole of the River Tyne down to the eastern end of Jarrow Quay, and shall extend from thence along the mid-channel of the said River Tyne to a point in mid-stream opposite to the eastern end of White-hill Point Sand, and shall comprise so much of the said River as is northward of mid-stream between the eastern end of Jarrow Quay and the eastern end of White-hill Point Sand aforesaid, and*

Date of Treasury Warrant, 27th May 1848.

The whole of this Customs Port is comprised within the limits of the River Tyne Port Sanitary District. See Report, page 96.

(4.) *South Shields.*

The limits of the said Port shall commence at Souter Point, in the county of Durham, being the northern limits of the Port of Sunderland, end shall extend from thence along the coast of the said County to the antrance of the River Tyne, from thence along mid-channel of the said River to a point in mid-stream opposite to the eastern end of Jarrow Quay, and comprising so much of the said River Tyne as is southward of such limits, and that the limits of the said Port of South Shields shall*

Date of Treasury Warrant, 16th day of September 1865.

Within the boundaries of this Customs Port are comprised a part of the River Tyne Port Sanitary District, and certain Riparian Parishes of the South Shields Rural Sanitary District. Shipping trade is confined to the portion of the Port within the River Tyne Port Sanitary District, as to which see page 96.

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* See footnote, page 78, *ante*.

BERWICK-UPON-TWEED URBAN RIPARIAN SANITARY DISTRICT.

[Berwick Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 1st, 1893.

This Riparian District is under the jurisdiction of the Town Council of the County of the Borough and Town of Berwick-upon-Tweed. The coastline of the district extends from Marshall Meadows on the north to Fairstead on the south.

Shipping Trade:—

FOREIGN.—*Hamburg, Harburg, Antwerp, Ghent, Rosario,* Dunkirk, St. Valery, Honfleur, Ostend, St. Nicholas, Cronstadt, St. Petersburg, Riga and Baltic Ports generally, Norway, Sweden, Denmark, Huelva, Alexandria, Canada, United States.

Imports.—Linseed cake from Hamburg and Harburg. Timber from the Baltic and America. Bones and crushed bones from St. Nicholas and Rosario. Pyrites and Kainit salt from Harburg.

No passengers. No immigrants or transmigrants. No rags. No ice.

Exports.—Herrings.

COASTWISE.—*London, Middlesbrough, Hull, Newcastle, Leith, Fowey,* also Dundee, Rochester, Teignmouth, and Liverpool.

Imports.—Coal, pig iron, corn, potatoes, China clay, paraffin, linseed, general cargoes. No passengers.

Exports.—Burnt ore, cement, corn, herrings.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign - Steamers	25	12,571	14	10,500	14	7,309
Foreign - Sailing	56	9,318	53	9,118	54	11,871
Foreign - Fishing	Nil	Nil	Nil	Nil	Nil	Nil
Total Foreign	81	21,889	67	19,618	68	19,180
Coastwise - Steamers	102	6,227	78	4,366	83	4,784
Coastwise - Sailing	134	8,275	151	9,589	143	8,714
Coastwise - Fishing belonging to this Port	400	3,722	385	3,613	347	3,220
Total Coastwise	636	18,224	614	17,568	573	16,718

The railways conveying goods from this Riparian District are the North-Eastern and North British.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (Daniel Heagerty, L.R.C.P and L.R.C.S., Edin.), is required to carry out the health duties in respect of any vessel reported to him to have infectious disease on board. This officer has made himself acquainted with the requirements of the Cholera Regulations. The Urban Inspector of Nuisances (John Cruden) had not prior to the date of the Inspector's visit carried out any systematic inspection of vessels under the Public Health Acts.

The Urban Sanitary Authority possesses a wooden "Port" Hospital which was erected in 1872. It is situate to the north of the town, just outside the ramparts but within the borough. It is fairly well isolated, and conveniently placed for Port purposes. It contains two wards, each capable of accommodating four patients; nurse's duty-room, bath-room, and pantry. A separate building (wooden walls, concrete floor, and iron roof), containing a wash-house and mortuary, has been provided since Dr. Barry's visit in 1892. The hospital is kept in readiness. Patients would be landed in the ship's boat, and conveyed to hospital in hand ambulance provided by Urban Sanitary Authority. The hospital site is not properly enclosed, being only fenced in by open posts and rails. Adjoining land belongs to Corporation, and could be had for extension if required. The town water is laid on. Earth closets for excrement disposal. Drainage into cesspool.

The Authority possesses a portable dry-heat disinfecting apparatus, which is kept at its depôt not far from the hospital described above.

The Infectious Disease (Notification) Act, 1889, was adopted on December 4th, 1889. No regulations made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—Between Carr Rock on the south side of the Tweed and the Ballast Quay on the north. Foreign coming vessels boarded at night as by day. Coasters boarded at their moorings as time allows. Customs staff consists of Collector, one Examining Officer and Clerk, one Examining Officer, and one Outdoor Officer.

Places of debarkation: The Dock, Customs Quay, and Carr Rock.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coast-guard and by Pilots.—"Infected" or "suspected" vessels would be detained near the boarding station for 12 hours, if necessary, pending arrival of Medical Officer of Health.

Pilots licensed by the Harbour Commissioners. They have been instructed to notify sickness on board ship to Medical Officer of Health.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—By special messenger.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—Port Sanitary Authority relies upon its ability to obtain open boats. The Commissioners possess a steam tug, the use of which might possibly be arranged for.

e. Mooring Station.—Mooring station fixed just above Carr Rock.

This station is in Urban Sanitary District, and has been approved by Collector of Customs.

f. Inspection of Vessels ("infected" and from "infected port").—Medical Officer of Health will inspect all vessels from cholera-infected ports.

g. Examination of Persons on Vessels ("infected" from "infected port").—The medical officer of health will see articles and muster and examine all hands on board.

h. Address Book.—Address book kept.

i. Special Isolation Provision for Cholera.—Hospital for 8 patients.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons would be isolated in hospital or retained on board ship according to circumstances.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—For conveyance by water, the ship's boat would be used. Hand ambulance for conveyance by land.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods.—

(*a.*) Cholera-infected articles would be burnt.

(*b.*) Sulphur fumigation. Corrosive sublimate solution for woodwork and carbolic acid solution for iron bilges.

(*c.*) None.

n. Arrangements made as regards disposal of the Dead.—Cholera dead would be buried in the parish cemetery, which is well isolated and could be approached from the hospital without passing through the town.

o. Action as to Water Supply of Vessels from Infected Ports.—Drinking water on such vessels will be ordered to be pumped out, tanks cleansed with solution of potassium permanganate, and fresh water supplied by Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports.—Bilges of vessels from "infected ports" will be pumped out before entering the dock and cleansed with carbolic acid.

Final Conference with the Berwick-upon-Tweed Urban (Riparian) Sanitary Authority was held on July 28th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity of securing the regular and systematic inspection of shipping under the Public Health Acts.
2. The steps to be taken beforehand to ensure, in the event of the extension of cholera to Great Britain, the medical inspection of all vessels entering the Port.

ACTION TAKEN BY SANITARY AUTHORITY SINCE INSPECTION.

1. Inspection of shipping undertaken and carried out by Inspector of Nuisances.
2. During the period of 1893, when certain English ports became infected with cholera, arrangements were made whereby the Medical Officer of Health and Inspector of Nuisances were kept informed as to the arrival, whether by night or by day, of all coastwise vessels and barges, with a view to the inspection of such vessels and barges by the Sanitary Authority's officers. [Letter from Sanitary Authority, dated September 18th, 1893.]

During 1893 the Inspector of Nuisances, under the Public Health Acts, inspected 46 vessels from foreign, and 22 coasters. [Annual Report of the Medical Officer of Health for the Year 1893.]

During 1894 the Inspector of Nuisances inspected, under the Public Health Acts, 54 vessels from foreign, and 34 coasters. [Annual Report of the Medical Officer of Health for the year 1894.

Belford Rural Riparian Sanitary District.

[Berwick Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* July 27th, 1893.

This Riparian District is under the jurisdiction of the Belford Rural Sanitary Authority. The coast line of the District extends from the common boundary of the parishes of Kyloe and Elwick (Old Law) on the north to the Brunton Burn on the south, which forms the common boundary of the parishes of Tughall and Newton-by-the-Sea. It comprises the following Riparian parishes: — Elwick, Ross, Outchester, Spindleston, Budle, Bamburgh, Bamburgh Castle, Monkhouse, Shoreston, North Sunderland, Beadnell, Swinhoe and Tughall.

Shipping Trade:—The only shipping in this District is at North Sunderland [Sea Houses]. No vessels direct from foreign have arrived there in recent years. A few vessels from Hamburg and the Baltic call there, however, for herrings after having discharged their cargoes in the Tyne or at other British ports. Other vessels arriving are coasters engaged in the herring trade. Coasting vessels are chiefly from the Tyne and Leith. The chief imports are coal, salt, and potatoes.

No rags, passengers, immigrants, or transmigrants.

Amount of Shipping Inwards during three years, 1890–91–92.

Class of Vessels.	1890.		1891.		1892.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Foreign — Steamers	Nil	Nil	Nil	Nil	Nil	Nil
Foreign — Sailing	—	—	—	—	—	—
Foreign — Fishing						
Total Foreign						
Coastwise — Steamers	9	320	10	398	20	662
Coastwise — Sailing	13	1069	26	1875	24	1566
Coastwise — Fishing	—	—	—	—	—	—
Total Coastwise	22	1389	36	2273	44	2228

No record of fishing boats kept by the Customs. There are, however, a considerable number, and they fish all round England and Scotland. They do not go foreign but might communicate with foreign vessels.

No imported goods, it is said, leave the district.

Chief Facts reported as regards Administration:—The Rural Medical Officer of Health (J. G. Macaskie, L.R.C.P. and L.R.C.S. Edin., D.P.H.) carries out his Riparian duties in a satisfactory manner. The Rural Inspector of Nuisances, A. J. Ware, had not, prior to inspection, carried out any systematic inspection of shipping under the Public Health Acts, but a certain number of vessels had been inspected by him in 1892 *quâ* cholera. In 1892 the Rural Sanitary Authority obtained permission to use two rooms under an old granary near North Sunderland, and cleansed and fitted them up for the purpose. At the time of visit the furniture had been removed. This granary is about half a mile from the harbour, and would be approached by passing through the village. There is no drainage, but slops could easily be disposed of on land. Excrement would be disinfected and buried. Water would be sent from a spring at North Sunderland. Additional accommodation could be obtained by using other four rooms under the granary, or the granary itself if permission could be obtained. At the time of inspection, however, the Sanitary Authority, who evidently regarded this accommodation as unsatisfactory, were disposed to provide a tent hospital on a sandy site between the shore and the granary. The Inspector advised that if they could obtain the use of the whole of the granary building, consisting of the granary

above, measuring 130′ × 16′ 3″ × 7′ 6″, which would serve for wards, and six rooms below, which might be used for nurses and stores; this would perhaps make a better hospital than tents, but that in any case better accommodation than that already possessed should be provided and kept in readiness.

The Sanitary Authority does not possess either a disinfecting apparatus or a mortuary. No regulations under § 125 of the Public Health Act, 1875, have been made. The Infectious Disease (Notification) Act, 1889, was adopted February 6th 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

No Customs Officer stationed at North Sunderland, but there is a Coastguard Staff, consisting of one Chief Boatman, one Commissioned Boatman, and two Boatmen, who are provided with one boat (to sail or row). All vessels coming into the harbour are boarded at the pier by the Coastguards and interrogated as to sickness.

The only other place of debarkation in the district is Beadnell, about 2 miles south of North Sunderland. Only fishing boats go there. There is one Coastguard stationed there, and he performs Customs duty.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

In the event of an "infected" or "suspected vessel" being met with by the Coastguards, she would be detained by them in the outer harbour for medical examination, and the Medical Officer of Health sent for.

Pilots licensed by Trinity House, Newcastle. These pilots were in 1892 instructed by Trinity House, Newcastle (on application of the local Medical Officer of Health), to make careful inquiries as to the health of persons on board, and if need be to communicate at once with the Medical Officer of Health.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

Telegraph by day and special messenger by night. [Medical Officer of Health resides at Bamburgh, about 3 miles from North Sunderland.]

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

Medical Officer of Health relies on ability to hire an open boat. This, it is said, could always be done.

e. Mooring Station :—

No mooring station fixed at time of inspection.

f. Inspection of Vessels ("infected" or from "infected port") :—

Every vessel in 1892 arriving from Hamburg (always after having called at an English port) was inspected either by Medical Officer of Health or Inspector of Nuisances. In 1893 it was arranged that all vessels from "infected ports" should be inspected by Medical Officer of Health, including vessels from Grimsby and Hull or other infected English ports, should such arrive.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

In examining persons, Medical Officer of Health will see ship's articles and muster and examine all hands on board.

h. Address Book :—

No special address book kept.

i. Special Isolation Provision for Cholera :—

Two rooms under the old granary at "Sea Houses" near North Sunderland.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons would be detained for 48 hours either on board the vessel or in "hospital" according to circumstances.

l. Means provided for transfer of Infected Persons from Ship to Hospital :—

Rural Sanitary Authority relies upon its ability to hire open boats.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Cholera-infected articles, would be burnt.

(*b.*) Sulphur fumigation and drenching with corrosive sublimate solution.

(*c.*) None.

n. Arrangements made as to the disposal of the Dead :—

No arrangements made at the date of inspection.

o. Action as to Water Supply of Vessels from Infected Ports:

Drinking-water would be pumped out before entering the harbour if possible, tanks cleansed with solution of potassium permanganate and fresh water supplied.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges would be pumped out before entering the harbour if possible, and cleansed with carbolic acid solution.

Final Conference with the Belford Rural (Riparian) Sanitary Authority was held on September 13th, 1893, when it was ascertained that a mooring station had been fixed, with the approval of the Collector of Customs of Berwick, immediately to the west of the Farne Islands. It is in the jurisdiction of the Rural Sanitary Authority. In certain weather, vessels would have to run elsewhere for shelter, in which case they would, it is understood, signal their destination, and the Belford Rural Sanitary Authority would telegraph to the Sanitary Authority of the district to which they were bound, as to their expected arrival. Such vessels would also be required to return to the mooring station as soon as weather permitted.

At this conference formal recommendations were made with regard to the following matters :—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisances and of unwholesome conditions generally.
2. The making of regulations under Section 125 of the Public Health Act, 1875.
3. The provision of suitable hospital and ambulance accommodation.
4. The steps to be taken to secure the medical inspection of all vessels arriving from ports infected or suspected to be infected with cholera.

ACTION TAKEN BY SANITARY AUTHORITY SINCE INSPECTION.

Mooring station fixed. [See above.]

Arrangements made with North Sunderland Burial Board for setting aside a portion of ground for the burial of cholera dead.

Inspection of vessels with a view to the abatement of nuisances, and medical inspection of all vessels from infected ports, strictly carried out. [Letter from Sanitary Authority dated November 17, 1893.]

The provision of more satisfactory isolation accommodation considered by Sanitary Authority, but no scheme decided upon. [Letter of Sanitary Authority dated December 9, 1893.]

Two hospital tents, purchased in 1894, for erection at North Sunderland if necessary. [Annual Report of the Medical Officer of Health for 1894.]

AMBLE URBAN RIPARIAN SANITARY DISTRICT.

[North Shields Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* February 16th, 1893.

This Riparian District is under the jurisdiction of the Local Board of the District of Amble. The coastline of the district extends from the Greystone of Helsey on the north to the Tawnaway Hill on the south.

Shipping Trade:—

FOREIGN.—*Bergen, Wyk (I. of Fohr), Tonning, Boulogne, Copenhagen,* Dieppe, Honfleur, Calais, Flushing, Ostend, Gottenburg, Hamburg, and occasionally Rotterdam and Amsterdam. Practically from all Ports from Brest to Archangel, but very little from the Baltic.

Imports.—Mining and building timber. Other vessels in water or sand ballast.

Exports.—Coal only.

COASTWISE.—*Chatham, Dundee,* and a fair amount of shipping from most ports on the east and south coasts.

Imports.—Occasionally a little salt, oil cake, potatoes, flour, &c.

Exports.—Coal only.

No systematic passenger trade, only a very occasional passenger. No immigrants or transmigrants. No rag trade.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	208	78,205	232	94,604	159	66,603
	Sailing	81	8,673	74	7,384	89	8,393
	Fishing	2	46	1	26	—	—
Total Foreign		291	86,924	307	102,014	248	74,996
Coastwise	Steamers	368	94,850	342	90,937	358	99,975
	Sailing	110	14,947	91	11,852	90	13,513
	Fishing	—	—	—	—	—	—
Total Coastwise		478	109,797	433	102,789	448	113,488

There is no regular foreign fishing trade; occasionally a fishing vessel comes in to coal or water. No local deep sea fishing. There are, however, three or four open boats that fish within 10 miles of the shore.

The railway conveying goods from the riparian district is the Amble branch of the North Eastern Railway.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (William Smyth, M.B.) has carried out his riparian duties in a satisfactory manner, and is well acquainted with the requirements of the Cholera Orders. The Urban Inspector of Nuisances (William Gibson) is a new officer; he had not hitherto carried out any systematic inspection of vessels under the Public Health Acts.

The Urban Sanitary Authority had not at the date of inspection made any suitable hospital provision, nor had any disinfecting apparatus been provided.

The Sanitary Authority had not adopted the Infectious Disease (Notification) Act, 1889, nor had it drawn up any regulations under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—Vessels usually boarded at the Quay. This is the only place of debarkation in the district. No difference as to boarding foreign vessels by night and day. All coasters are boarded at some time during their stay at the port, but not necessarily on arrival.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—Pilots have instructions to inquire of masters of vessels if all are well on board, and in the event of their hearing of sickness not to bring the vessel into harbour, but to inform the Harbour Master (who is also Pilot Master and Chairman of the Urban Sanitary Authority). The Harbour Master would immediately send to the Medical Officer of Health. If the Customs Officers met with an "infected." or "suspected ship" they would detain her, and at once send to the Sanitary Authority.

The Harbour Master is on duty three hours before and after each tide.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—By special messenger. The distance is short.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—The Superintendent of Customs would undertake to send off the Medical Officer of Health to vessels. The Harbour Master has control of a steam tug, which he stated would also be available for the Medical Officer of Health.

e. Mooring Station.—Mooring station at the higher dolphins on the north side of the river above the mooring berths. Probably as satisfactory as any available spot. Vessels would take the ground at low water, but this, it is said, they always do during their stay in the harbour.

f. Inspection of Vessels ("infected" or from "infected port").—Medical Officer of Health inspects all vessels from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health examines all persons on such vessels.

h. Address Book.—Address book kept.

i. Special Isolation Provision for Cholera.—None at time of inspection.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Suspected persons would be detained, up to 48 hours, on the vessel on which they arrived.

l. Means provided for transfer of infected Persons from Ship to Hospital.—Open boat provided by Harbour Master.

m. Arrangements made for disinfection of (*a*) *Clothes,* (*b*) *Ship.* (*c*) *Goods.*—

(*a.*) Infected clothes would be burnt.

(*b.*) Sulphur fumigation and swabbing with carbolic acid or corrosive sublimate solutions.

(*c*). None.

n. Arrangements made as to the disposal of the Dead.—Inspector of Nuisances (who is also Clerk to the Burial Board) stated that the Burial Board had agreed to reserve a portion of land for the burial of persons dying of cholera.

o. Action as to Water Supply of Vessels from Infected Ports.—Drinking water on vessels arriving from "infected ports" ordered to be pumped out in the river; but Sanitary Authority had not made any arrangements as regards the provision of a fresh supply of water.

p. Action as to Bilges of Vessels from Infected Ports.—Bilges of vessels from "infected ports" ordered tbe pumped out, and the masters of such vessels ordered to disinfect the bilges with solutions of carbolic acid or of corrosive sublimate. The captains of Hamburg boats have been asked to pump out their water ballast and bilges at sea. The Harbour Master stated that as regards ballast this is a perfectly safe proceeding, and had not been objected to.

Final Conference with the Amble (Riparian) Sanitary Authority was held on July 26th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for systematic inspection, under the Public Health Acts, of vessels entering the district, with a view to securing the abatement of nuisances and unwholesome conditions generally.
2. The making of regulations under section 125 of the Public Health Act, 1875.
3. The obligation imposed upon the Sanitary Authority of providing for the removal of cholera patients from ship to hospital or other suitable place.
4. The necessity for making arrangements for the delivery, by the Urban Sanitary Authority, of a proper supply of water for drinking and cooking purposes for the use of persons on board vessels coming from "infected ports."
5. The adoption of the Infectious Disease (Notification) Act, 1889.

Action taken by the Urban Riparian Sanitary Authority since Inspection.

In reply to a commuication from the Board, the Clerk to the Sanitary Authority stated in a letter, dated November 23rd, 1893, that "an "Assistant Port Sanitary Medical Officer" had been appointed; and in a subsequent letter, dated March 29th, 1894, he stated that a site for a cholera hospital had "been obtained." Present information, however, affords no ground for supposing the above recommendations to have been carried out. [September 1895.]

River Blyth Port Sanitary District.

[North Shields Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* February 15th, 1893.

Date of Order *permanently* constituting Port Sanitary District: January 20th, 1887.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed the "River Blyth Port Sanitary Authority," and consists of 12 members, composed of representatives of the Urban Sanitary Authorities of Bedlingtonshire, Cowpen, and South Blyth as follows:—

Bedlingtonshire Urban Sanitary Authority, two members.
Cowpen Urban Sanitary Authority, seven members.
South Blyth Urban Sanitary Authority, three members.

It exercises port functions in waters abutting upon the Urban Sanitary Districts named above.

Limits of Jurisdiction:—

So much of the Customs port of North Shields as abuts on the Urban Sanitary Districts of Bedlingtonshire, Cowpen, and South Blyth, "including the estuary of the River Blyth up to "the point where it is crossed by the Railway Bridge of the "Blyth and Tyne Section of the North-Eastern Railway, "together with the waters [of the said Port within such limits, "and the place or places for the time being appointed as the "Customs Boarding Station or Stations for such part of the said "Port, and every other place for the time being appointed for "the mooring or anchoring of ships for such part of the said "Port, under any regulations for the prevention of the spread "of diseases issued under the authority of the Statutes in that "behalf; and the watersides of the District of the said Port "Sanitary Authority constituted as aforesaid, and the docks, "basins, harbours, creeks, rivers, channels, roads, bays, and "streams belonging to that part of the said Port for which "such Authority is constituted as aforesaid."]*

[The coast line of this Port District extends from Maggie's Burn on the south to the south side of the Wansbeck Creek on the north.]

The limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Bedlingtonshire Urban Sanitary District.
Cowpen " " "
South Blyth " " "

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* Words to the effect of those within brackets, but modified when necessary to meet the circumstances of the particular case, are contained in nearly all Orders issued to other ports.

4. *Apportionment of Expenses :—*

The expenses are borne by the Constituent Authorities in the following proportions :—
Bedlingtonshire Urban Sanitary Authority, two twelfths.
Cowpen Urban Sanitary Authority, seven twelfths.
South Blyth Urban Sanitary Authority, three twelfths.

5. *General Character and Efficiency of Administration :—*

The administration in this Port Sanitary District has not hitherto been very satisfactory, but the Port Authority is now (1893) apparently anxious to place matters upon a more efficient footing.

6. *Ports from whence Ships arrive :—*

(Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*) :—

Foreign.—*Hamburg*, *Antwerp*, *Rotterdam*, *Amsterdam*, *Havre*, *Rouen*, Norway, Sweden, and all the principal Baltic ports.

Coastwise.—*The River Tyne Port*, *West Hartlepool*, *Sunderland*, *London*, *Portsmouth*, *Plymouth*, *Dartmouth*, and *Fowey*. Also some trade with practically all British ports requiring steam coal.

7. *Character of Trade :—*

(Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Foreign.—*Imports*. Wood goods, many ships arrive in water or sand ballast.
Exports.—Coal, coke, iron, general merchandise.
No immigrant or transmigrant traffic. No rag trade. Only occasional passengers.

Coastwise.—*Imports*. China clay, blasting powder, potatoes.
Exports. Coal and coke.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	600	385,230	724	502,923	663	478,467
Foreign { Sailing	159	39,324	157	43,202	139	33,329
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	759	424,554	881	546,125	802	511,796
Coastwise { Steamers	703	437,026	756	484,410	921	574,137
Coastwise { Sailing	323	61,186	257	48,078	362	71,354
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	1,026	498,212	1,013	532,488	1,283	645,491

There is practically no fishing trade at this port. There is only one deep sea fishing boat at Blyth; the rest are small open boats fishing within a mile of the coast.

9. *Inland Water Communication :—*

None. No boats of any kind go above the Bedlington Railway Bridge on the River Blyth.

No shipping up the Wansbeck for some years. There is a legal Quay in this river situated on the North side in the Morpeth Rural Sanitary District, but the channel has now become impracticable and there are no means of unlading.

10. *Lines of Railway conveying Goods from Port :—*

Blyth and Tyne section of the North-Eastern Railway. As a rule only timber goes by rail.

11. *Medical Officer of Health :* John Cromie.

Qualifications :—L.R.C.P. and L.R.C.S. Edin. Salary 25*l.* per annum ; half repaid from public funds. Mr. Cromie also holds the appointment of Medical Officer of Health for the South Blyth Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—Good, and efficient as far as the means at his disposal allow.

12 *Inspector of Nuisances :* William Winship.

No sanitary certificate. Salary 5*l.* per annum ; no repayment. Mr. Winship also acts as Surveyor and as Inspector of Nuisances for the South Blyth Urban Sanitary District.

Character and efficiency of work done by Inspector of Nuisances :—Doubtful as to efficiency. He admitted having only served two notices for abatement of nuisances on board ship during the three years 1890–92. Considering the very inadequate salary he has received, however, he has, apparently, done as much as could be expected. He is advanced in years and not very active.

A deputy port inspector of nuisances was appointed temporarily after Dr. Barry's inspection of this district in September 1892, at a salary of 1*l.* 1*s.* per week. This deputy was still in office at the date of inspection, and the inspection of vessels had apparently been more satisfactorily performed since his appointment.

13. *Nuisances :—*

From the following return which was furnished by the Port Inspector of Nuisances it would appear that, whilst he actually visited almost every vessel entering the port during 1890–91–92, and met with the presence of nuisances in a certain number, two notices for abatement only were served.

INSPECTION of SHIPPING in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	600	50	2
		Sailing	159	20	—
		Fishing	—	—	—
		Total Foreign	759	70	2
	Coastwise.	Steamers	680	80	—
		Sailing	311	50	—
		Fishing	—	—	—
		Total Coastwise	991	130	—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	724	35	—
		Sailing	157	10	—
		Fishing	—	—	—
		Total Foreign	881	45	—
	Coastwise.	Steamers	756	35	—
		Sailing	257	20	—
		Fishing	—	—	—
		Total Coastwise	1,013	55	—
1892	Foreign	Steamers	663	15	—
		Sailing	139	5	—
		Fishing	—	—	—
		Total Foreign	802	20	—
	Coastwise.	Steamers	921	20	—
		Sailing	362	14	—
		Fishing	—	—	—
		Total Coastwise	1,283	34	—

14. *Isolation Hospital:—*

At the time of inspection the Port Sanitary Authority was practically without accommodation for the isolation of cholera patients. When the district was inspected in September 1892 the authority was under the impression that the South Blyth Urban Sanitary Authority's hospital would be available for the purpose, but at the date of visit in 1893 it had become doubtful as to whether such would be the case, and the Port Sanitary Authority had consequently decided to provide a port infectious diseases hospital. With this object in view, it had obtained a well-isolated, conveniently situated site on the south side of the river and accessible for patients by water. The owner of the land had consented to give the Port Authority a 20 years' lease of the site at a rental of 30*l.* per annum, with option of purchase for 600*l.* This site is 4,800 square yards in extent. Tenders had been obtained for a galvanized iron hospital with accommodation for 20 beds. The water supply will be obtained from the Cowpen Urban Sanitary Authority's water-works, which are about 500 yards distant. The drainage will be discharged into the tidal estuary. The site appears to be adapted for the purposes of a Port Sanitary Hospital.

The hospital of the South Blyth Urban Sanitary Authority, to which reference has been made above, was formed in 1871 by throwing together three brick cottages and making certain alterations in them with a view to adapting them to the purpose. This building is situate close to the roadway, and is unprovided with a proper fence or with an adequate zone between the building and the boundary. It contains three rooms, all on the ground floor, for the reception of patients, besides a

living and sleeping room for the caretaker, a kitchen and two waterclosets. An enclosed corridor has been provided to give access to all parts of the building from the caretaker's rooms and kitchen. It is impossible in this building to safely isolate, at one and the same time, cases of more than one kind of infectious disease.

15. *Disinfecting Apparatus* :—

No disinfecting apparatus. The Port Sanitary Authority relies upon sulphur fumigation. The Port Medical Officer, however, proposes to destroy cholera-infected articles by burning.

16. *Mortuary* :—

The South Blyth Urban Sanitary Authority possesses a mortuary, of which the Port Authority could obtain the use when required. This mortuary is situate near to the Boarding Station. It consists of a corrugated iron building with concrete floor and is fitted with four slate slabs for bodies.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

Regulations have been made by the Port Sanitary Authority under the above section for the removal to hospital of persons infected by a dangerous infectious disorder, brought within the district by any ship or boat. These regulations were adopted by the Port Authority on July 10th, 1888, and approved by the Local Government Board on July 18th, 1888.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

Nominally at the Fish Quay. Practically vessels are hailed at this spot, but cannot be boarded there, owing to the narrowness of the channel. The Customs Officers follow them up the river, and board them either in the river or at the quay after they have swung to their moorings. The places of debarkation are, on the south side, The Fish or Ballast Quay, The Railway, New, Cowpen, Flanker, Bottle-works, and Saunders' Quays. On the north side, the Ballast Quay, and sundry jetties. There are no Customs Officers stationed at these several places of debarkation, as the Fish Quay commands them all. The Customs Officers board all vessels from foreign at night as by day. Coasters are all boarded, though not immediately; but as time allows.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Pilots, acting under instructions from the Port Sanitary Authority and Customs Officer, would detain any vessels they found to be "infected" outside the harbour, and communicate with Her Majesty's Customs, who would inform the Port Sanitary Authority. The Port Medical Officer of Health would then proceed to inspect the vessel. Vessels discovered to be "infected" (or suspected) when boarded by the Customs Officer, would be

sent by this Officer direct to the mooring station selected under Art. 6 of the Board's Order of August 28th, 1890.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

Communication would be by special messenger and immediate.

d. Means provided or Facilities given for Conveyance of Medical Officer of Health to Ships :—

The Port Medical Officer of Health would be conveyed to ships in the open boat of Her Majesty's Customs.

e. Mooring Station :—

The Mooring Station is situate on the north side of the river immediately below the steam ferry. It is within the Port Sanitary district, but is not satisfactory, as this locality is used for mooring other vessels. Dredging operations are in progress higher up the river, and it is proposed to adopt as the Mooring Station a position considerably above that at present fixed for the purpose. The existing Mooring Station had been approved by the Customs Officer, who, however, agreed to the proposed change.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health inspects all vessels from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

In inspecting vessels, the Port Medical Officer of Health consults the ships' articles, and musters and examines all on board.

h. Address Book :

No special address book kept.

i. Special Isolation Provision for Cholera :—

No accommodation at the time of inspection beyond the doubtful ability of Port Sanitary Authority to use the hospital of the South Blyth Urban Sanitary Authority.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons would be detained on board the suspected ship for 48 hours.

l. Means provided for transfer of infected Persons from Ship to Hospital :—

None. Infected persons would be transferred in the boat of the "infected" ship.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Clothes would be burned.
(*b.*) Sulphur fumigation and swabbing with corrosive sublimate solution (1 in 1000).
(*c.*) No arrangements beyond sulphur fumigation.

n. Arrangements made as to the Disposal of the Dead :—

Arrangements have been made by which the Burial Boards of the three districts constituting the Authority have agreed to set apart ground for the burial of persons who may die of cholera.

o. Action as to Water Supply of Vessels from infected Ports :—

Vessels from "infected ports" are made to discharge their drinking water, and the tanks are cleansed with a solution of potassium permanganate. The Port Sanitary Authority had not arranged to provide a fresh supply of water.

p. Action as to Bilges of Vessels from infected Ports :—

Bilges are pumped dry and cleansed with corrosive sublimate solution (1 in 1000).

Final Conference with the River Blyth Port Sanitary Authority was held on April 19th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of a hospital.
2. The provision of an efficient disinfecting apparatus.
3. The efficient inspection of vessels with a view to the abatement of nuisances.
4. The adoption of the Infectious Disease (Notification) Act, 1889.
5. The arrangements to be made to provide a proper water supply to vessels coming from "infected ports."

It was also pointed out that in the event of any British ports becoming infected with cholera, coastwise shipping might be a means of introducing the disease into the district, and that the Port Sanitary Authority should therefore be prepared to carry out, in the event of need arising, the regular supervision and medical inspection of all coastwise vessels coming within its jurisdiction.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. A new hospital, said to be capable of accommodating 20 patients, has been provided by the Port Sanitary Authority and put in readiness for emergency. It comprises three wards and an administrative building—each ward being provided with a w.c. and bath-room.

3. All vessels arriving in the district reported to have been "visited" by the Assistant Inspector of Nuisances, but no record of sanitary defects observed, or of action taken, received from that officer by the Port Medical Officer of Health.

4. The Infectious Disease (Notification) Act, 1889, adopted July 23rd, 1893, by the Port Sanitary Authority.

5. The water supply of vessels arriving at the port has been pumped out when necessary "and a fresh supply obtained." [Annual Report of the Port Medical Officer of Health for 1893.]

The River Tyne Port Sanitary Authority.

[Newcastle (all) North Shields (part of) and South Shields (part of) Customs Ports.]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* February 14th, 1893.

Date of Order *permanently* constituting Port Sanitary District: May 18th, 1882.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "River Tyne Port Sanitary Authority," and consists of 15 members, composed of representatives of the Urban Sanitary Authorities of Gateshead, Jarrow, Newcastle-upon-Tyne, South Shields, Tynemouth, Felling, Hebburn, Howdon, Walker, Wallsend, and Willington Quay as follows:—

Urban Sanitary Authority for the County Borough of Gateshead	two members.
Urban Sanitary Authority for the Borough of Jarrow	one „
Urban Sanitary Authority for the County Borough of Newcastle-upon-Tyne	six „
Urban Sanitary Authority for the County Borough of South Shields	two „
Urban Sanitary Authority for the Borough of Tynemouth	two „
Felling and Hebburn Local Boards	one „
Howdon, Walker, Wallsend, and Willington Quay Local Boards	one „

This Authority exercises port functions in waters abutting upon the Urban Sanitary Districts of Gateshead, Jarrow, Newcastle-upon-Tyne, South Shields, Tynemouth, Felling, Hebburn, Howdon, Walker, Wallsend, Willington Quay, Whickham, Benwell, Blaydon, and Ryton, and upon the Rural Sanitary District of Castle Ward.

2. *Limits of Jurisdiction:—*

"... the whole of the Port of Newcastle, and ... so much "of the Ports of North Shields and South Shields as abuts on "the coastline between Cullercoats and Herd Sand, together "with so much of the said Ports as forms part of the River "Tyne; together with the waters,"* &c.

The limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

North Bank of the Tyne:—Tynemouth, Howdon, Willington Quay, Wallsend, Walker, Newcastle-on-Tyne, and Benwell† Urban Sanitary Districts; and Castle Ward Rural Sanitary District,† Parishes:—East Denton, West Denton, and Newburn.

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* See footnote, page 89, *ante*.

† See next page.

South Bank of the Tyne:—South Shields, Jarrow, Hebburn, Felling, Gateshead, Whickham,† Blaydon,† and Ryton† Urban Sanitary Districts.

The districts marked † do not contribute, but appear to be within the Port Sanitary District.

4. *Apportionment of Expenses:—*

Expenses defrayed out of a common fund contributed to by all the Riparian Authorities represented on the Joint Board according to the rateable value of their districts.

5. *General Character and Efficiency of Administration:—*

Very efficient.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which the Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*):—

Foreign.—*The Baltic*, *Germany*, *Denmark*, *Norway*, and *Sweden* contribute together about nine-tenths of all the foreign trade. But there is some trade also with Belgium, Holland, France, Spain, the Mediterranean, and America.

Coastwise.—*London*, *Hull*, *Leith*, *Aberdeen*, Middlesbrough, Sunderland, Hartlepool, Southampton. Only a little trade with ports on the west coast of England and Irish ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Foreign.—*Imports:* Chiefly timber (pit props) and ore. A little corn from San Francisco and ice from Norway. Practically no rag trade (three years ago there was some rag trade with Russia, but it has since ceased). Passengers consist largely of Norwegian and Swedish tourists, but there is also passenger traffic all the year round with Hamburg, Antwerp, Rotterdam, and Copenhagen.

A few transmigrants (only 442 in 1892, being half the number of the previous year). Only a few immigrants.

Coastwise.—*Imports:* General merchandise and potatoes. Regular passenger boats twice a week from Leith and once a week from Aberdeen.

Exports: Chiefly coal.

8. *Amount of Shipping Inwards during three years*, 1890–91–92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	4,159	2,854,689	4,205	3,028,892	3,626	2,630,315
	Sailing	1,176	373,250	1,106	368,581	899	284,592
	Fishing	2	59	—	—	—	—
Total Foreign		5,337	3,227,998	5,311	3,397,473	4,525	2,914,907
Coastwise.	Steamers	5,687	3,185,169	6,034	3,332,093	5,592	3,106,873
	Sailing	3,189	503,999	3,242	518,390	2,812	440,974
	Fishing	—	—	—	—	—	—
Total Coastwise		8,876	3,689,168	9,276	3,850,483	8,404	3,547,847

No record kept by the Customs officers of the arrivals of fishing boats except in the case of foreign fishing vessels

putting in with fish for sale, and of fishing boats arriving from foreign ports. But from inquiries made by the Collector of Customs of the Quay Master at North Shields it appears that 5,626 arrivals of steam trawler and line boats, made by a fleet of 70 to 80 vessels, took place at the Fish Quay, North Shields, in the year 1892. Also that 270 herring boats fished from the Tyne during the summer of 1892. All these fished from 5 to 200 miles from the mouth of the Tyne. None of them would in the opinion of the Quay Master be likely to visit foreign ports.

9. *Inland Water Communication :—*

1. Large vessels go (above Newcastle) to Elswick, and Portobello Wharf a mile above Elswick, and discharge there.
2. Smaller craft (steam and sailing) get up as far as Blaydon and there take in bricks and coke.
3. Nothing but an occasional rowing-boat goes above Blaydon; the river there is rapid and shallow.

All the above places are, however, within the Port Sanitary District.

10. *Lines of Railway conveying Goods from Port :—*

The North-Eastern and North British Railways.

11. *Medical Officer of Health :* Henry Edward Armstrong.

Qualifications :—D.Hy., M.R.C.S.Eng., L.S.A. Salary, 80*l.* per annum; with repayment. Dr. Armstrong also holds the appointments of Medical Officer of Health to the City of Newcastle and Medical Superintendent to the City Hospital for Infectious Diseases.

Permanent Assistant Port Medical Officer of Health, Joseph F. Armstrong, M.D.Brux., M.R.C.S.Eng., L.R.C.P.Ed. Salary, 20*l.* A temporary assistant Port Medical Officer of Health was appointed for inspection of vessels during the autumn of 1892, and acted from August 30th to November 21st. During a part of this time a second temporary assistant Port Medical Officer of Health was appointed for night duty.

Character and efficiency of work done by the Medical Officers of Health :—Highly efficient.

12. *Inspector of Nuisances :* Charles Irvin.

Qualifications :—No sanitary certificate. Formerly a shipwright. Salary, 130*l.* per annum, a house, and 10*l.* a year for coals and gas; with repayment. Mr. Irvin holds no other offices.

Assistant Inspector of Nuisances, James B. Ross. Salary 35*s.* a week.

Assistant Inspector of Nuisances (temporary), Henry Evans. Salary 30*s.* a week.

One of the Assistant Inspectors of Nuisances was formerly a sea-going engineer and the other a master of a small vessel.

Character and efficiency of work done by the Inspectors of Nuisances :—Good.

13. *Nuisances :—*

Inspection of shipping systematically carried out and nuisances abated.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	3,108	197	197
		Sailing	971	76	76
		Fishing	Nil	—	—
		Total Foreign	4,079	273	273
	Coastwise	Steamers	4,780	284	284
		Sailing	2,189	146	146
		Fishing	970	56	56
		Total Coastwise	7,939	486	486
1891	Foreign	Steamers	3,311	301	301
		Sailing	1,026	157	157
		Fishing	Nil	—	—
		Total Foreign	4,337	458	458
	Coastwise	Steamers	4,216	203	203
		Sailing	2,420	150	150
		Fishing	560	20	20
		Total Coastwise	7,196	373	373
1892	Foreign	Steamers	3,624	342	342
		Sailing	1,190	290	290
		Fishing	Nil	—	—
		Total Foreign	4,814*	632	632
	Coastwise	Steamers	2,853	310	310
		Sailing	1,471	126	126
		Fishing	714	17	17
		Total Coastwise	5,038	453	453

* It will be observed that this return, which was furnished by the Inspector of Nuisances is not at first sight reconcilable with that of the Customs (sec. 8 above). Probably, however, it includes some second visits to vessels during their stay in port.

All vessels said to have complied with requirements except a small number which left the Port before they could be revisited. Note is taken of such vessels, and if they return they are looked after; if bound for British ports advice is sent to the sanitary authorities of those ports.

14. *Isolation Hospital :—*

The present floating isolation hospital was constructed in 1885–6, from designs by Mr. W. George Laws, and is now moored on the south side of the Tyne, off Jarrow Slake. The following detailed description of the hospital was given by Mr. Laws:—

"The float consists of a series of ten wrought-iron cylindrical pontoons, each 72 feet long and 6 feet in diameter, with hemispherical ends. The displacement of each pontoon is 53½ tons, or a total for the ten of 535 tons. Seven rolled wrought-iron girders, each 140 feet long and 12 inches deep, connect the

pontoons, being fixed to curved saddles, which rest on the cylinders and are riveted thereto. The connexion between the saddles and the girders resting on them, is by screw-bolts, so that any pontoon can be detached, partially sunk by admitting water, and so removed from its position for repair or painting. The distance between the centres of the pontoons when in position is 14 feet 6 inches. Across the iron girders are laid creosoted joists, 11 inches by 3 inches, 4 feet apart, which are bolted to wrought-iron chubbs riveted to the upper flanges of the girders, and across these joists again is laid a close deck of creosoted planking 3 inches thick, spiked down with 6-inch spikes. The whole forms a platform or deck, 140 feet long and 70 feet wide, which serves to carry the ward blocks, &c.

"In order to prevent any tendency to racking of the float, a system of diagonal bracing of 4-inch by 3-inch T-irons connects the longitudinal girders, being riveted to the under-side of their upper flanges, thus securing perfect stiffness in the plane of the deck. The whole deck, however, being thin relatively to its area, would yield partially to any inequality of support caused by heavy waves, and as an additional precaution against this, and to relieve the strain caused by the tidal current acting on the submerged part of the pontoons, four balks of timber are run the whole length of the float below the pontoons, and are secured to the iron-work of the deck by $1\frac{1}{2}$-inch bolts. The pontoons have each on their upper sides two manholes with bolted covers, for the purpose of giving access to the interior. These are reached through trap-doors in the deck above.

"Access from boats to the deck is obtained by means of a sloping gangway, which, at its lower end, rests on a fender-beam attached to the ends of three of the pontoons, and serving to protect them from damage by the steam launch when she comes alongside. The height of the deck above water is 4 feet. The platform is protected all round by a strong wooden hand-rail, and as the main buildings do not come nearer than two feet to the edge of the deck, there is a narrow passage thus left all round the outside to give access for painting, repairs, &c.

"The ward blocks are three in number, built of timber, and with a double skin of cleading. They are each 65 feet long, $23\frac{1}{2}$ feet wide, and about 12 feet 6 inches high to eaves, and 21 feet 6 inches to ridge. The roof is of zinc, on Braby's system. It is carried on half-coupled timbers with purlins and rafters. Each ward block is divided into two wards for patients, containing six and four beds respectively; and to each ward is attached a small offshoot 8 feet square, containing w.c. and scullery. In the centre of each ward is a Musgrave's slow-combustion stove, the chimney of which is carried up through the roof, passing through a ventilating shaft 18 inches square, widening out to 3 feet at ceiling level. The stove-pipe thus does not come in contact with the wood in any part, and by its heat establishes an upward current through the ventilating shaft, which is controlled by light iron flaps worked by cords from below.

"The wards are lined with pitch-pine boards dressed and varnished, and the ceiling is of the same material carried along the couples and below the collar beam. There are eight

windows in the larger ward, and six in the smaller. These are each 8 feet high by 2 feet 6 inches, and have sliding sashes for two-thirds of their height, the upper third forming a swinging sash, worked by a rack and screw by cords from below, so that they can be set to any opening, and fixed by the same operation. The entrance of pure air below is effected by Kite's ventilators fixed in the walls under each bed. The ventilation is thus under complete control.

"Each ward block has an independent floor laid on joists, and 9 inches above the deck, thus further providing for ventilation. The two wards in each block are separated by a space of 10 feet wide, in which is contained the nurse's room, 13 feet by 10 feet, and the bath-room, 10 feet by 9 feet.

"A small window in each side of the nurse's room enables her to command a view of all the beds. In this room is placed a patent stove, formed of wrought iron and welded in one piece. This gives a constant supply of hot water by means of a circulating cistern in the roof, from which it is carried in wrought-iron pipes to the bath room and scullery. Cisterns for fresh water, and river water for washing, are also contained in the roof, in the space above the ceilings.

"The soil pipes and waste pipes discharge directly into the water outside, and are cut off short 30 inches below deck-level, so as to form an effectual air trap, and prevent any of the excreta or slops hanging about their ends. A force pump in each scullery affords the means of raising river water for washing purposes. The fresh-water cisterns are filled from water boats plying on the river. Rain tubs are so placed as to catch the roof water and preserve it for use. A small porch over the three entrance doors forms a lobby to each ward, and protects it from draughts.

"The bath-room contains a lavatory with two tip basins, and a moveable bath on wheels, which can in case of necessity be taken into the wards alongside the patient's bed.

"The three ward blocks are arranged as three sides of a rectangle, leaving a clear deck space of 80 feet by 35 feet."

The administrative accommodation is provided upon a hulk moored alongside the hospital, and consists of a bed-room for nurses; two separate bedrooms for caretakers and servant; caretakers' sitting room; kitchen; laundry; bath room and linen store. Hospital kept in readiness. Nurses obtained from Newcastle if required, but caretakers (man and wife) reside on board.

15. *Disinfecting Apparatus:—*

An apparatus for sulphur fumigation provided at the floating hospital; but this is apparently quite unreliable as regards efficient disinfection.

16. *Mortuary:—*

A small mortuary for two bodies] provided at the floating hospital.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

Regulations made. Approved by Local Government Board February 16th, 1886.

18. *Infectious Disease (Notification) Act*, 1889 :—

This Act was adopted by the Port Sanitary Authority April 14th, 1890, and came into force June 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

Vessels boarded in mid-stream off North Shields, at which spot the Customs officials occupy the hulk "Orwell." No difference as to boarding by night or day.

Places of debarkation : Tyne Dock, Jarrow, and Elswick Docks, Newcastle Quay, Albert Edward Dock, and Portobello Dock. All vessels, from foreign, going to any of these places of debarkation are intercepted at the "Orwell," but there are also Customs Officers stationed night and day at the Tyne and Albert Edward Docks and at the Newcastle Quay. Coasting vessels are rummaged at the quays as time permits, but are not interrogated as to cholera.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Any "infected" or "suspected" vessel met with by the Customs Officers would be at once sent to the Port Sanitary Authority's mooring station and the Port Sanitary Authority communicated with. Pilots have been instructed by the Tyne Pilotage Board to report to the Port Sanitary Authority any cases of sickness on shipboard they may meet with. They have also been instructed to slacken speed in passing the boarding station and proceeding up the river, in order to give more time for boarding and inspection by the Officers of the Port Sanitary Authority.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

In the ordinary course the Customs officers would row ashore to the offices of the Port Sanitary Authority at Mill Dam (near the boarding station), and would give information to the Port Inspector of Nuisances. That officer would at once communicate with the Assistant Port Medical Officer of Health, who resides near the Port Sanitary Authority's office, and if necessary would telephone to the Port Medical Officer of Health at Newcastle. During the danger of cholera in the autumn of 1892 a cabin in the hailing ship "Orwell" was put at the disposal of the Port Medical Officers of Health, one of whom remained on duty there. He was then put on board all vessels from "infected ports" by the Customs launch, the Port Sanitary Authority's launch following to bring him off again.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The steam launch "Midge" the property of the Port Sanitary Authority. Also the use of the Customs launch, as stated above.

e. Mooring Station :—

On the south side of the River Tyne abreast of Jarrow Slake. It is within the district of the Port Sanitary Authority, and has been approved of by the Collector of Customs.

f. Inspection of Vessels ("infected" or from "infected port") :—

All "infected" vessels inspected by the Port Medical Officer of Health himself.

During the danger of cholera in 1892 all vessels from "infected ports" were boarded either by the Port Medical Officer of Health or by one of the Assistant Port Medical Officers of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

All persons on "infected" vessels or on vessels from "infected ports" carefully examined.

h. Address Book :—

Address book kept, and produced at inspection.

i. Special Isolation Provision for Cholera :—

Floating hospital for 30 patients off Jarrow Slake.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Suspected persons would either be detained on board the vessel upon which they arrived, or isolated in an empty ward at the floating hospital.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

The Port Sanitary Authority's steam launch "Midge," the fore cabin of which is fitted with a stretcher bed for the purpose.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Sulphur fumigation or burning—practically the latter.

(*b.*) Vessels swabbed with corrosive sublimate solution (1 in 1,000), and afterwards as far as possible fumigated with sulphurous acid.

(*c.*) None. The Port Medical Officer of Health has proposed to the Port Sanitary Authority the purchase of a hulk to be fitted (as a movable disinfecting depôt) with a steam disinfecting apparatus; with hoses for flushing vessels with corrosive sublimate solution; and with arrangements for sulphur fumigation.

n. Arrangements made as to the disposal of the Dead :—

It is proposed to inter the bodies of persons who have died of cholera in Jarrow Cemetery.

o. Action as to Water Supply of Vessels from Infected Ports :—

Drinking water ordered to be pumped out in the tidal river when necessary and tanks cleansed with solution of permanganate of potash. The Port Sanitary Authority had not, however, arranged for the supply of fresh water in such cases, but left vessels to buy it from "water boats."

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges ordered to be pumped dry in the tidal river, when necessary, and afterwards flushed with corrosive sublimate solution (1 in 1,000).

Ballast water also pumped out before entering the docks.

Final Conference with the River Tyne Port Sanitary Authority was held on April 15th 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of a suitable apparatus for disinfecting infected articles by steam.
2. The provision of detached laundry and washhouse for use at the floating hospital.
3. The necessity for arrangements being made for the delivery by the Port Sanitary Authority of a proper supply of water for drinking and cooking purposes for the use of persons on board vessels coming from "infected ports."

In addition to the above formal recommendations the possibility of cholera being brought to the Tyne by coastwise shipping, in the event of British ports becoming infected, was pointed out; and the Port Sanitary Authority was accordingly advised to be prepared to undertake, if need should arise, the regular supervision and medical nspection, both by night and by day, of all coastwise vessels arriving in their district.

Action taken by the Port Sanitary Authority since Inspection.

1. As a result of a report made by the Port Medical Officer of Health, the Hospital Committee, in August 1893, approved plans and estimates for the provision of a hulk fitted with apparatus for the disinfection of ships and their contents. The apparatus was to consist of—

"*A tank for mercuric drench*, with means of flushing or spraying the drench fore and aft on decks, into bilges, over dry ballast and the floors and sides of holds, forecastles, &c.

"*A steam disinfecting chamber* for rags in bale, bedding, clothing, &c.

"*A store* for a stock of cylinders of *liquefied sulphurous acid*."

The total estimated cost, including purchase of the hulk, was 775*l.*, and the sanction of the Local Government Board to a loan for the purpose was obtained. The hulk "Perseverance" was acquired, and the work of fitting her put in hand. [Annual Report of the Port Medical Officer of Health for 1893.]

3. Arrangements made by the Port Sanitary Authority for the supply of fresh water to vessels from infected ports. [Letter from the Port Sanitary Authority dated June 21st, 1893.]

As regards other action taken, the Port Sanitary Authority, with a view to securing the adequate medical inspection of vessels arriving during the autumn of 1893 from infected ports, whether British or foreign, temporarily appointed, as in the previous autumn, two additional Port Medical Officers of Health to act under the direction of the Port Medical Officer of Health, and purchased, and kept in constant use, a second steam launch. [Letter from the Port Sanitary Authority, dated September 14th, 1893.]

The disinfecting hulk referred to above was completed, and, after survey reported in good working order in October 1894. [Annual Report of Port Medical Officer of Health for 1894].

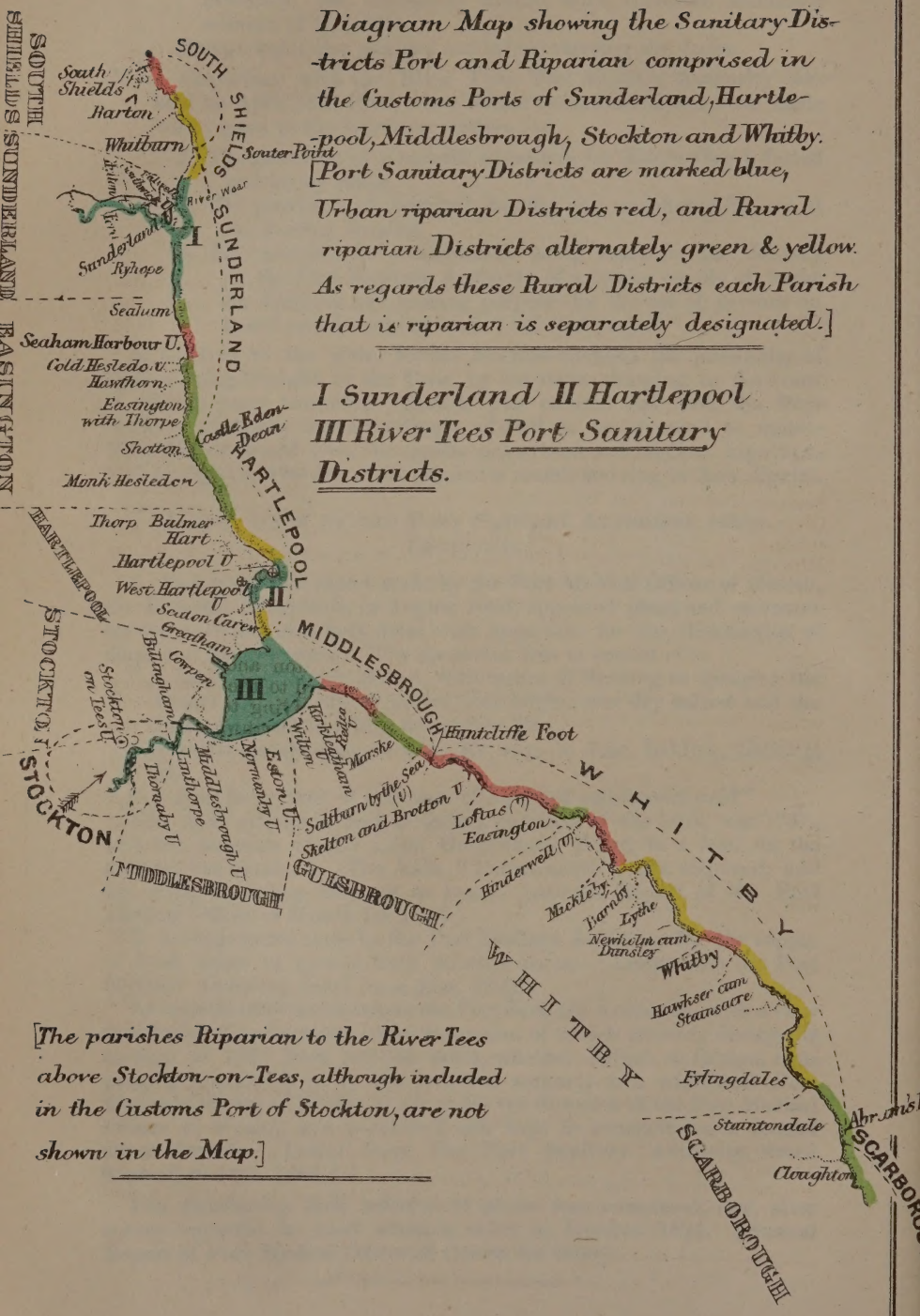

Diagram Map showing the Sanitary Districts Port and Riparian comprised in the Customs Ports of Sunderland, Hartlepool, Middlesbrough, Stockton and Whitby.

[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural Districts each Parish that is riparian is separately designated.]

I Sunderland II Hartlepool III River Tees Port Sanitary Districts.

[The parishes Riparian to the River Tees above Stockton-on-Tees, although included in the Customs Port of Stockton, are not shown in the Map.]

SECTION II.

Customs Ports of Sunderland, Hartlepool, Middlesbrough, Stockton and Whitby.

Illustrated in Map II.

Limits of Customs Ports.

(5.) *Sunderland.*

From the promontory or point called Souter Point, about two miles from Sunderland Bar towards the north-east and so into the sea to the extent of three miles directed from thence in a supposed line till it falls opposite to the north side of Castle Eden Dean, about eleven miles distant from Sunderland towards the south, and so continued from the said Bar and limits up the River of Wear to Hilton Ferry.

Date of Treasury Warrant, 10th January 1845.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Sunderland, the Urban Riparian Sanitary District of Seaham Harbour and certain Riparian Parishes of the Rural Sanitary Districts of South Shields and and Easington. Shipping trade is practically confined to the Port Sanitary District of Sunderland and to the Urban Riparian Sanitary District of Seaham Harbour, with regard to which districts reports will be found at pages 107 and 114 respectively.

(6.) *Hartlepool.*

Commencing on the south side of the Town of Seaton and proceeding round Hartlepool Heugh along the seacoast northward to the promontory or high land on the north side of Castle Eden Dean, giving to the Port of Hartlepool the entire space of that Dean in its limits northward, and the Port from south to north extending three miles seaward.

Date of Treasury Warrant, 9th January 1845.

Within the boundaries of this Customs Port are comprised the Port Sanitary district of Hartlepool and certain Riparian parishes of the Rural Sanitary Districts of Easington and Hartlepool. The shipping trade is practically confined to the Port Sanitary District of Hartlepool, a report with regard to which will be found at page 117.

(7.) *Middlesbrough.*

The limits of the said Port shall commence at Huntcliffe Foot in the North Riding of the County of York, being the northern limits of the Port of Whitby, thence along the coast of the County of York, and along the southern side of the River Tees, westward as far as and including all the landing places at Simpson Granary at Newport in the Parish of Middlesbrough, thence directly across the said River Tees to the western bank of the stream of water called Billingham Beck in the Parish of Stockton in the County of Durham, and from thence along the coast of Durham aforesaid, to the south side of the town of Seaton, being the southern limits of the Port of Hartlepool, and including the whole of the River Tees as far westward as and including the said landing place and beck, and *

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* See footnote, page 78, *ante*.

Date of Treasury Warrant, 29th day of September 1860.

Within the boundaries of this Customs Port are comprised part of the Port Sanitary District of the River Tees, the Urban Riparian Sanitary Districts of Kirkleatham, Redcar, and Saltburn-by-the-Sea, and certain Riparian parishes in the Rural Sanitary District of Guisbrough. Shipping trade is almost altogether confined to the River Tees Port Sanitary District, a report with regard to which will be found at page 125.

(8.) *Stockton.*

The limits of the said Port shall commence at, but excluding the western part of the Western Landing Place at Simpson's Granary, at Newport in the Parish of Middlesbrough in the North Riding of the County of York, and the western bank of Billingham Beck in the Parish of Stockton and County of Durham, being the western boundary of the Port of Middlesbrough, thence westward up the River Tees including the whole of the said River.

Date of Treasury Warrant, 29th day of December 1860.

The whole of the navigable waters included within the boundaries of this Customs Port is comprised within the River Tees Port Sanitary District, a report with regard to which is given at page 125.

(9.) *Whitby.*

The limits of the said Port shall commence at Huntcliff Foot in the North Riding of the County of York, being the southern boundary of the Port of Middlesbrough, and shall extend from thence along the coast of the said County in a southerly direction to the south side of Abram's Beck, being the northern boundary of the Port of Scarborough, and shall *

Date of Treasury Warrant, 23rd day of May 1865.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary Districts of Skelton and Brotton, Loftus, Hinderwell, and Whitby, and certain Riparian parishes of the Rural Sanitary Districts of Guisbrough, Whitby, and Scarborough. Shipping trade as distinguished from fishing trade is almost exclusively confined to the Urban Riparian District of Whitby, and as regards that district a report is given at page 133.

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* See footnote, page 78, *ante*.

Sunderland Port Sanitary District.

[Sunderland Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 1st, 1893.

Date of Order *permanently* constituting Port Sanitary District: April 27th, 1878, as amended by the Borough of Sunderland Act, 1885.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Sunderland acting by the "Council." It exercises port functions in waters abutting upon the Urban Sanitary Districts of Sunderland and Southwick and upon the Sunderland Rural Sanitary District.

2. *Limits of Jurisdiction:—*

"So much of the Port of Sunderland as abuts on the Townships of Bishopwearmouth, Bishopwearmouth Pans, Ford, Fulwell, Hylton, Monkwearmouth, Monkwearmouth Shore, Ryhope, and Southwick, and on the Parish of Sunderland; together with the waters,"* &c.

The limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Sunderland Urban Sanitary District.
Southwick Urban Sanitary District.
Sunderland Rural Sanitary District. Townships: — Ford, Fulwell, Hylton, and Ryhope.

4. *Apportionment of Expenses:—*

Expenses wholly borne by the Sunderland Urban Sanitary Authority.

5. *General Character and Efficiency of Administration:—*

This important port was found, at the time of inspection, to be in a very unsatisfactory condition as regards arrangements for dealing with ship-borne cholera, and to be devoid of any isolation accommodation for the purpose. Such a state of affairs was no doubt partly, perhaps largely, a consequence of local circumstances. Owing to these circumstances the Port Sanitary Authority has found it difficult to provide isolation accommodation and to select a satisfactory mooring station. As regards the former, when, in 1892, the Authority erected a small wooden hospital on the bank of the river, it was forced by public opinion to remove it. When, later on, a floating hospital was provided in a fairly isolated position up the river, although no open demonstration was made against it,

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* See footnote, page 89, *ante*.

the Port Medical Officer of Health was given to understand that any attempt to use it for cholera patients would be resented. Probably this feeling is largely due to the narrowness of the river and the fact of its running through the town, for this apparently engenders a feeling in the minds of the inhabitants that the practical result of the Port Sanitary Authority's arrangements would be to bring cholera into their midst. These difficulties will perhaps be removed when the new breakwater is completed, as it may then be found possible to moor a floating hospital, and also to select a suitable mooring station, in the outer harbour which will thus be formed. That, however, will be some years hence.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

FOREIGN.—*Hamburg*, *Rotterdam*, *Antwerp*, *Ostend*, *Rouen*, and other French, German, and Dutch Ports. Also the Baltic, Norway, Sweden, the Mediterranean, and the Black Sea. Some vessels from America.

COASTWISE.—*London*, *Southampton*, *Portsmouth*, and Channel Ports generally. Padstow, Bristol, Gloucester, the Tees, the Tyne, Aberdeen, and Dundee. Practically none from Ireland.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN :

Imports : Corn, iron ore, timber, esparto grass, and china clay. About two-thirds of the vessels come in ballast. No rags or systematic passenger traffic. No immigrants or transmigrants.

Exports : Coal, bottles, and iron.

COASTWISE :

Imports : About four-fifths come in ballast. Stray cargoes of corn, stone, &c. One weekly passenger steamer with London.

Exports : Coal.

8. *Amount of Shipping Inwards during three years*, 1890-91-92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	983	624,523	982	668,916	928	630,098
	Sailing	408	105,570	349	87,385	390	94,742
	Fishing*	—	—	—	—	—	—
Total Foreign		1,391	730,093	1,331	756,301	1,318	724,840
Coastwise.	Steamers	3,114	1,334,257	3,075	1,356,766	2,622	1,145,648
	Sailing	2,706	338,589	2,599	323,228	2,063	255,090
	Fishing†			No record.			
Total Coastwise		5,820	1,672,846	5,674	1,679,994	4,685	1,400,738

* No fishing vessels, either British or Foreign arrived here from foreign parts during the years 1890, 1891, and 1892.

† A list of vessels arriving from the fishing grounds, which are from 10 to 25 miles distant, is filed at the Custom House every day, but the particulars are not entered in a book. The Chief Officer of Customs estimates that probably 600 fishing boats enter the port every year. For the most part these boats go out at night or early in the morning according to the state of the tide and generally return within 24 hours.

9. *Inland Water Communication :—*

Large vessels get up to Pallion to repair ; smaller vessels go a mile higher up to Hylton to take in cargoes of cement. Only small pleasure boats go above this point. Pallion and Hylton are, however, within Port Sanitary Authority's District.

10. *Lines of Railway conveying Goods from Port :—*

The North-Eastern Railway. Also the Seaham Harbour Line which belongs to Lord Londonderry.

11. *Medical Officer of Health :* John Cundell Wood.

Qualifications :—L.R.C.P., L.R.C.S., D.P.H.(Edin.). Salary, 20*l.* per annum ; without repayment. Mr. Wood also holds the appointment of Medical Officer of Health for the Sunderland Urban Sanitary District, and acts as Medical Officer to the Urban Sanitary Authority's Fever Hospital.

Character and efficiency of work done by Medical Officer of Health :—The present Port Medical Officer of Health had not, at the time of inspection, been long appointed. He is well acquainted with the Cholera Orders, and apparently prepared to carry them out.

12. *Inspector of Nuisances :* Thomas Rickaby Preston.

No sanitary certificate (ex-merchant captain). Salary, 100*l.* per annum ; without repayment. Mr. Preston holds no other offices.

The seven Urban Inspectors of Nuisances are also used for port purposes if required.

Character and efficiency of work done by Inspector of Nuisances :—The Port Inspector of Nuisances is advanced in years, but is active for his age and appears a careful and conscientious officer. He seems to rely entirely upon verbal notices (*see* below).

13. *Nuisances :—*

Inspection of Shipping in 1890–91–92.

Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
Foreign	Steamers	716	119	148 verbal notices given.
	Sailing	318	29	
	Fishing	—	—	
	Total Foreign	1,034	148	—
Coastwise	Steamers	658	61	110 verbal notices.
	Sailing	882	49	
	Fishing	—	—	
	Total Coastwise	1,540	110	—

	Class of Vessels.	Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign — Steamers	785	103	3 } 130 verbal notices.
	Foreign — Sailing	285	31	1 }
	Foreign — Fishing	—	—	— }
	Total Foreign	1,070	134	4
	Coastwise — Steamers	598	38	4 } 73 verbal notices.
	Coastwise — Sailing	949	39	— }
	Coastwise — Fishing	—	—	— }
	Total Coastwise	1,547	77	4
1892	Foreign — Steamers	736	93	3 } 126 verbal.
	Foreign — Sailing	310	36	— }
	Foreign — Fishing	—	—	— }
	Total Foreign	1,046	129	3
	Coastwise — Steamers	624	25	2 } 43 verbal.
	Coastwise — Sailing	744	22	2 }
	Coastwise — Fishing	—	—	— }
	Total Coastwise	1,368	47	4

14. *Isolation Hospital :—*

At the date of inspection the Port Sanitary Authority had no isolation hospital in readiness for cholera patients. The temporary hut hospital erected on Potato Garth in 1892 had to be removed owing to the hostility of the inhabitants. Another wooden hospital was then erected on a lighter hired by the Port Sanitary Authority at a cost of 3*l.* a week, and moored up the river at Pallion. This hut was subsequently removed to save the rent of the lighter. The Port Sanitary Authority at the time of inspection was hesitating between the re-erection of its hospital on a lighter, and the erection of it on a site which had recently been acquired abutting on the river. This site consists of four acres and is covered, in great part, with old and more or less dilapidated buildings formerly used as bottle works. The buildings are intersected by roads which, however, it is said could be closed if the site were used for a cholera hospital. There are also one or two inhabited cottages on the site, but the inhabitants could, if necessary, be turned out.

The Urban Sanitary Authority has a good isolation hospital for 42 patients. This hospital, however, is not suitably situate for port cholera purposes, and it is not proposed to use it for sea-borne cholera.

The "bottle works" site referred to above as a possible site for a cholera hospital, is conveniently situate for that purpose, and patients could easily be landed there from the river. But, in view of all the circumstances, a floating hospital would probably be more satisfactory.

15. *Disinfecting Apparatus :—*

The Port Sanitary Authority has no disinfecting apparatus. The Urban Sanitary Authority possesses a Washington Lyon's apparatus at the urban hospital.

16. *Mortuary :—*

No mortuary available for ship-borne cholera purposes. There are three public mortuaries in the town, but it is not proposed to use them for ship-borne cholera.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted by the Port Sanitary Authority. The Urban Sanitary Authority has compulsory notification of cholera, small-pox, typhus, typhoid, scarlet, relapsing, continued, and puerperal fevers and diphtheria, under a local Act. (Borough of Sunderland Act, 1885.)

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

At the entrance to the harbour near the Watch House on the South Pier, and at the South Outlet of Sunderland (Hudson North and South) Dock. No difference between night and day as regards boarding by Customs. Coastwise vessels are boarded at their moorings as time allows. The places of debarkation are the two Hudson Docks and the Hendon Dock. Occasionally vessels discharge at places in the river. The Customs Staff consists of 34 hands all told, viz., one Collector, three Clerks, three Examining Officers, two Out-door Officers, five Preventive Officers, and 20 Boatmen. The out-door men are stationed at the Customs Watch House and the Hailing Tower near the north entrance to the Hudson Docks ; and at the south outlet of those docks.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Vessels, "infected" or "suspected," would be detained at the mooring station.

The Pilots are licensed by a local authority (the Wear Commissioners) by whom they were ordered during the autumn of 1892 to bring all vessels from "infected ports" to the Customs Boarding Station at the north entrance to the docks.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

On meeting with an "infected" or "suspected" vessel the Customs authorities would at once dispatch one of their officers to the Medical Officer of Health.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority possesses a small open boat.

e. Mooring Station :—

Mooring station fixed on the south side of the River Wear about 200 yards east of the Customs House. This is not altogether satisfactory owing to the narrowness of the river, but it seems the best position at present available, and has been approved by the Collector of Customs.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health inspects all "infected" vessels and vessels from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health inspects the ships' articles and musters and examines all hands on board.

h. Address Book :—

No special Address Book kept.

i. Special Isolation Provision for Cholera :—

None in readiness at the time of inspection.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Suspected persons would be detained on board the vessel.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

None. The Port Medical Officer of Health would hire an open boat or use the ship's boat.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Clothes would be burnt.
(*b.*) Sulphur fumigation. Swabbing with corrosive sublimate solution.
(*c.*) None.

n. Arrangements made as to the disposal of the Dead :—

In 1892 a special piece of ground was set aside for this purpose by the authorities of three cemeteries.

o. Action as to Water Supply of Vessels from Infected Ports :—

Such vessels are ordered to pump out their drinking water before entering the dock, and are supplied with fresh water by the Port Sanitary Authority. Tanks cleansed and lime-washed.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilge and ballast water ordered to be pumped out before entering the dock, and sand ballast sent out to sea. Bilges disinfected with carbolic acid solution.

Final Conference with the Sunderland Port Sanitary Authority was held on April 20th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of suitable hospital and ambulance accommodation.

2. The provision of an efficient disinfecting apparatus.
3. The provision of a suitably situate mortuary.
4. The adoption of the Infectious Disease (Notification) Act, 1889.

It was also pointed out that in the event of any British ports becoming infected with cholera, coastwise shipping might be a means of introducing the disease into the district, and that the Port Sanitary Authority should therefore be prepared to undertake, in the event of need arising, the systematic medical inspection of all coastwise vessels arriving within their jurisdiction.

Action taken by the Port Sanitary Authority since Inspection.

1. The Port Sanitary Authority has provided a floating hospital capable of accommodating some five patients on the basis of allowing 2,000 cubic feet of air space per patient. It is built of wood—double wooden walls, wooden roof covered with felt, and well caulked boarded floor—and is carried upon a wooden deck floated by six steam boilers. It comprises a good sized ward (cubic capacity approximately 10,500 cubic feet) with a small nurses' duty room at one end and an annex containing a pail closet at the other—the closet being separated from the ward by a cross-ventilated lobby. A small living room and pail closet, for the use of the nurse, are provided in a separate building on the deck. The ward is ventilated by opposite windows, the upper thirds of which open inwards. A cooking stove is provided in the nurses' duty room, and it is intended to provide a stove for warming the ward. In ordinary times the hospital lies on the north side of the river near the North Dock, but if required for cholera purposes it would be towed to a more suitable mooring place up the river. [Inspector, August 3rd, 1894.]

4. The Infectious Disease (Notification) Act, 1889, was adopted by the Port Sanitary Authority on May 17th, 1893. [Letter from the Port Sanitary Authority, dated May 24th, 1893.]

Vessels known to have come from "infected ports" (presumably both from British and foreign "infected ports") have been "in every case" visited by the Port Medical Officer of Health. [Annual Report of the Port Medical Officer of Health for 1893.]

SEAHAM HARBOUR URBAN RIPARIAN SANITARY DISTRICT.

[Sunderland Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* May 9th, 1893.

This Riparian District is under the jurisdiction of the Local Board of the District of Seaham Harbour.

The coastline of the district is conterminous with that of the township of Dawden.

Shipping Trade:—

FOREIGN.—*Dunkirk, St. Malo, Boulogne,* Antwerp, Rotterdam, and ports of Sweden and Norway.

Imports.—Timber from Norway and Sweden, sand from Antwerp. But nearly all vessels come in water ballast. No rags, passengers, immigrants, or transmigrants.

Exports.—Coal.

COASTWISE.—*London,* Whitstable, Harwich, Yarmouth, Portsmouth, Southampton, Dover, Ramsgate, Folkestone, Aberdeen, Montrose, and Dundee.

Imports.—Sand, clay, sulphate, straw.

Exports.—Coal, glass bottles.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	67	24,700	68	25,791	53	19,425
	Sailing	46	5,655	15	1,971	19	2,659
	Fishing	—	—	—	—	—	—
Total Foreign		113	30,355	83	27,762	72	22,084
Coastwise	Steamers	1,384	269,401	1,246	265,590	976	213,786
	Sailing						
	Fishing	—	—	—	—	—	—
Total Coastwise		1,384	269,401	1,246	265,590	976	213,786

There are only some 13 fishing boats in the district, and none of them fish more than five miles from the coast. They do not therefore come in contact with foreign fishing boats. Fishing boats from other ports do not call at Seaham Harbour.

The railways conveying goods from the riparian district are the "Londonderry Railway" to Sunderland, and local wire-rope railways to collieries.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (Thomas Gibbon, M.R.C.S.) is prepared to carry out his riparian duties under the cholera regulations. The Urban Inspector of Nuisances (James Burrell) had not, prior to the Inspector's visit, carried out any inspection of vessels under the Public Health Acts.

The Urban Sanitary Authority possesses a small "hospital" which is fairly isolated as regards position, and conveniently situated on the cliff

near the docks. It consists of the upper storey of an old brick and stone building, the lower part of which is used as a store for rope, &c. An adjoining part of the building is used as a blacksmith's shop. There is a separate entrance on the cliff to the "hospital" storey. The "hospital" comprises two wards each containing rather over 2,000 cubic feet of air space. These wards are kept in readiness. Additional accommodation could be obtained by acquiring the blacksmith's shop and marine store below. The town water is laid on. Drainage on to the beach (drains defective at time of visit). Excrement disposal by water closet. No administrative accommodation; the nurse sleeps in one of the wards. No laundry or mortuary.

The Authority possesses no disinfecting apparatus.

The Infectious Disease (Notification) Act was adopted on October 25th, 1892. No regulations made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—At the entrance to the docks. The Customs Establishment consists of one Principal Coast Officer, one Out-door Officer, and one Boatman. Only place of debarkation—the docks. A customs officer attends at the boarding station at each tide, night and day. Vessels cannot come in at other times. Coasters are boarded at the boarding station as time allows.

b. Arrangements as to Detention of vessels by Officers of Customs and Coast-guard and by Pilots.—The Customs Officer would detain an "infected" or "suspected vessel" at the dry dock and send a special messenger to the Medical Officer of Health. Pilots are licensed by Trinity House, Newcastle, but are under control of the Harbour Master who is also Pilot Master. They have been instructed by him to enquire as to health before boarding vessels, and if there is sickness on board to anchor the vessels in the Roads and send word to him.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—Special messenger.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—Lord Londonderry had put two tugs at the service of the Medical Officer of Health, by whom they were used when necessary during 1892.

e. Mooring Station.—Mooring Station fixed (at the meeting attended by the Inspector) in Seaham Roads north of the Featherbed Rock, and approved by the Chief Officer of Customs. It is agreed to be safe anchorage except in very bad weather. Masters of vessels to be allowed to run elsewhere for shelter if really necessary, provided they signal intention of doing so and their destination to the Sanitary Authority. This mooring station is within the Urban Sanitary District.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health will inspect all vessels from cholera-infected ports before they enter the dock, as he did in 1892.

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health will see ships' articles and muster and examine all hands on board.

h. Address Book.—Address book not kept hitherto.

i. Special Isolation Provision for Cholera.—Small hospital on the cliff near the docks. (*See* above.)

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons will be detained on board the vessel on which they arrive.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—Lord Londonderry's tugs.

m. Arrangements made for disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods.*—
(*a.*) None.
(*b.*) Sulphur fumigation. Corrosive sublimate solution.
(*c.*) None.

n. Arrangements made as to the disposal of the Dead.—The Burial Board has set aside a portion of ground for the interment of cholera dead.

o. Action as to Water Supply of Vessels from Infected Ports.—Drinking water will be pumped out before entering the dock. The tanks will be cleansed and fresh water supplied by the Urban Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports.—Bilges will be pumped out before coming into dock, and cleansed.

Final Conference with the Seaham Harbour Urban (Riparian) Sanitary Authority was held on September 8th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity of securing the regular and systematic inspection of shipping under the Public Health Acts.
2. The adoption, by the Sanitary Authority, of Regulations under section 125 of the Public Health Act of 1875.
3. The special duties and obligations devolving upon the Sanitary Authority under the Board's Cholera Regulations.

Informal recommendations were also made with respect to the improvement of the cholera hospital.

Action taken by the Sanitary Authority since Inspection.

The Officers of the Sanitary Authority have been instructed to carry out the provisions of the Board's Cholera Regulations. [Letter from the Sanitary Authority, dated September 13th, 1893.]

No information as to any other action taken. [September, 1895.]

Hartlepool Port Sanitary District.

[Hartlepool Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 2nd, 1893.

Date of Order *permanently* constituting Port Sanitary District: April 1st, 1881, as amended by the Hartlepool Borough Extension Act, 1883.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Hartlepool Port Sanitary Authority," and consists of 15 members composed of representatives of the Urban Sanitary Authorities of West Hartlepool and Hartlepool as follows:—West Hartlepool Urban Sanitary Authority, nine members, Hartlepool Urban Sanitary Authority, six members.

[By the Act of 1883, above referred to, the Borough of Hartlepool was extended to include the Local Board Districts Throston and Middleton and the representation on the Port Sanitary Authority was amended accordingly.]

The Authority exercises port functions in water abutting upon the above-named Urban Sanitary Districts.

2. *Limits of Jurisdiction:—*

By the Provisional Order Confirmation Act of April 1st, 1881, by which this Port Sanitary Authority was permanently constituted, the limits of jurisdiction were defined as "so "much of the Port of Hartlepool as abuts on the Improve- "ment Act District of West Hartlepool, the Borough of "Hartlepool, and the Local Government Districts of "Middleton in Stranton and Throston; together with the "waters,"* &c. The two latter districts have, as said above, since been incorporated with the Borough of Hartlepool.

These limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

West Hartlepool Urban Sanitary District.
Hartlepool Urban Sanitary District.
Hartlepool Rural Sanitary District. Parish: Seaton Carew (part of).

4. *Apportionment of Expenses:—*

The West Hartlepool and Hartlepool Urban Sanitary Authorities each contributes according to the rateable value of its district.

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* See footnote, page 89, *ante.*

5. *General Character and Efficiency of Administration* :—

Satisfactory.

6 *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

FOREIGN.—*Hamburg* (two regular steamers each week, until recently carrying from 50 to 100 transmigrants). *Gottenborg* and *Baltic Ports.* A few ships from Spain but only an occasional one from the Mediterranean and Black Sea. A few from America.

COASTWISE. — *London* and other *South of England Ports.* Weekly trade with *Belfast.* A few ships from Leith. Very few from the ports on the North East and West of England.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—*Imports.* General cargoes (butter, sugar, eggs, and a quantity of fruit, from Hamburg). Timber and iron ore. Rags from Hamburg. No rags from elsewhere. Ice from Norway, eight or nine cargoes per year. Fair passenger traffic and usually a large transmigrant traffic with Hamburg. The latter, however, ceased during the autumn of 1892 and had not been resumed at the time of inspection. Occasional passengers from Gottenborg.

Exports. Coal, iron, and salt.

COASTWISE.—*Imports.* Most vessels come in ballast (water, sand, or chalk). General cargoes from London and Ireland.

Exports. Same as foreign.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign - Steamers	663	414,185	682	467,175	629	426,429
Foreign - Sailing	653	156,077	573	138,949	581	150,557
Foreign - Fishing	—	—	—	—	—	—
Total Foreign	1,316	570,262	1,255	606,124	1,210	576,986
Coastwise - Steamers	644	261,099	654	267,474	659	265,909
Coastwise - Sailing	1,046	131,189	1,087	136,499	987	123,209
Coastwise - Fishing	966	17,041	641	9,417	755	12,392
Total Coastwise	2,656	409,329	2,382	413,390	2,401	401,510

There are several steam trawlers frequenting the port; these and some of the larger sailing boats are engaged in deep sea fishing, while the smaller boats are mostly engaged in line fishing within a short distance of the land.

9. *Inland Water Communication* :—

None.

10. *Lines of Railway conveying Goods from Port* :—

North-Eastern Railway.

11. *Medical Officer of Health:* Samuel Biggart.

Qualifications:—M.D. and C.M. Glasgow. Salary, 10*l.* per annum without repayment, and fees of 1*l.* for every night visit and 10*s.* for a day visit. Dr. Biggart holds no other sanitary offices.

Character and efficiency of work done by Medical Officer of Health:—The Port Medical Officer of Health is well acquainted with the Board's Cholera Orders and has carried them out efficiently.

12. *Inspector of Nuisances:* Smith Winder Hastings.

Qualifications:—No sanitary certificate. Previously served as Port Inspector of Nuisances to the River Tyne Port Sanitary Authority. Salary 100*l.* a year with repayment. Mr. Hastings holds no other offices.

Thomas Pounder, Pilot Master, is appointed Permanent Assistant Port Inspector of Nuisances at salary of 5*l.* per annum. During danger of cholera in the Autumn of 1892 a temporary Assistant Inspector was appointed at a salary of 30*s.* per week.

Character and efficiency of work done by Inspectors of Nuisances:—

Good. The Port Inspector of Nuisances is an efficient and painstaking officer.

13. *Nuisances:*—

Nuisances appear to be efficiently dealt with.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	652	40	40
		Sailing	561		
		Fishing			
		Total Foreign	1,213	40	40
	Coastwise	Steamers	193	19	19
		Sailing	253		
		Fishing			
		Total Coastwise	446	19	19
1891	Foreign	Steamers	645	69	69
		Sailing	509		
		Fishing			
		Total Foreign	1,154	69	69
	Coastwise	Steamers	206	26	26
		Sailing	277		
		Fishing			
		Total Coastwise	483	26	26

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	593	78	78
		Sailing	575		
		Fishing			
	Fotal Foreign		1,168	78	78
	Coastwise	Steamers	300	29	29
		Sailing	443		
		Fishing			
	Total Coastwise		743	29	29

14. *Isolation Hospital:—*

The Port Sanitary Authority possesses a hospital capable of accommodating about 22 patients. It is situated on the sand dunes by the sea shore, outside and to the north-east of the town, and about 1½ miles from the docks. It would not be accessible (for patients) by sea, except possibly in particularly fine weather, but in conveying patients thither from the docks, by road, the town would not be passed through, though houses have recently been built at one or two points along the line of route. A suitable ambulance has been provided by the Port Sanitary Authority and is kept at the hospital. The hospital consists of a brick administrative block containing kitchen, bath-room, and three other rooms (one very small); two wooden ward pavilions each containing two wards measuring about 28′ × 18′; small brick mortuary; ditto washhouse; disinfecting block fitted with Washington Lyon's apparatus; and detached privies. The above are enclosed by a brick wall about 6′ 6″ high, except in front of administrative building where there are open iron railings. These wards were erected in 1886, the administrative block having been previously used as the hospital. Since the inspection in 1892 an additional wooden building containing two wards, each measuring about 36′ × 21′, and separated by a nurses duty room, has been erected on adjoining land, and enclosed by a close wooden fence about 6′ high. This was erected especially for cholera patients, at the Inspector's suggestion, as the other wards are used by Hartlepool and West Hartlepool Urban Sanitary Authorities, as well as by the Port Sanitary Authority; and there was therefore every likelihood that they would not be available for cholera patients if required. A caretaker and his wife reside at the hospital, which is kept in readiness. The town water is laid on. Excrement disposal by deep dry steined privies sunk in the sand. Ample room for extension. This hospital is open to considerable criticism as regards character and arrangement. For instance, the two older ward pavilions are only about 16 feet from each other, and about 10 feet from the administrative block. The mortuary is only about 18 inches from one

of the ward pavilions. The arrangements for excrement disposal are very unsatisfactory.

15. *Disinfecting Apparatus :—*

A Washington Lyon's steam disinfecting apparatus has been provided at the isolation hospital.

16. *Mortuary :—*

There is a small brick mortuary, with concrete floor and one slate slab situate at isolation hospital.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

Regulations made. Approved by Local Government Board June 1st, 1886.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

This Act was adopted on November 21st, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The chief Boarding Station is at the entrance to the North Basin. Vessels are also boarded at the entrance to the Victoria Dock and the entrance to the Coal Dock (West Harbour). At the Coal Dock vessels are boarded just as they are coming in and it would be difficult to send an "infected" vessel out without letting her first enter the dock. One Customs Officer and three boatmen are stationed at the Central Station (North Basin) and also at the West Harbour. At the Victoria Dock there is one man as watchman and he communicates with the Central Customs Station, if necessary, by telephone. Foreign vessels are boarded at night as well as by day. Coasters are boarded at their moorings as time allows. All large fishing boats are boarded.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Customs Staff at Hartlepool consists of Collector, six Clerks, five Examining Officers, five Preventive Officers, two Outdoor Officers, and 24 Boatmen.

"Infected" or "suspected vessels" met with by the Customs authorities at the Boarding Stations would be detained pending the arrival of the Port Medical Officer of Health.

The Pilots, who are licensed by, and under the control of, a local Pilotage Board, have received orders from that Board to make immediate inquiries on speaking or boarding any vessel as to whether there is or has been any sickness or death on board, and if they have reason to suspect that there is or has been any such case, to detain the vessel in the bay until inspected by the officers of the Port Sanitary Authority. If, however, owing to the state of the weather, the safety of the vessel would be endangered by remaining in the bay, she may be brought to some suitable place in the tidal harbour, there to await orders from the harbour officials. In any case the Pilot must immediately report the arrival of the vessel to the Port Inspector of Nuisances, or to the Pilot Master (who is also a Port Inspector of Nuisances).

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

Special messenger to the Port Inspector of Nuisances who resides at his office near the Docks. The Port Inspector of Nuisances would then send to the Port Medical Officer of Health. In order to avoid delay, however, it is desirable that telephonic communication should be provided between the Port Inspector of Nuisances and the Port Medical Officer of Health.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

There is a permanent arrangement with a boatman to provide an open boat for the use of the Port Sanitary Authority's Officers when required. During the Autumn of 1892 the North-Eastern Railway Company placed steam tugs at the disposal of the Port Sanitary Authority.

e. Mooring Station :—

There is considerable difficulty in finding a suitable mooring station owing to the exposed character of the anchorage in the bay and the local circumstances generally. At the time of inspection the arrangement made in the Autumn of 1892 to use the centre of the "Central Dock" held good. The matter was discussed at the Conference, and it was agreed that the Central Dock was the only available place for general purposes. The old harbour was said by the Collector of Customs to be too crowded and also open to the objection that large vessels would take the ground there. The mouth of the Tees it was agreed would not be sufficiently accessible even if the Tees Port Sanitary Authority raised no objection to its use. The only alternative appeared to be to moor vessels in the Bay in fine weather, allowing them to come into the Central Dock for shelter if necessary. The orders given to Pilots would seem to suggest that such an arrangement would be practicable, but the Collector of Customs would not express a definite opinion upon it without further consultation with Pilots and others. The matter was therefore left for further consideration between the Port Sanitary Authority and the Collector of Customs, the Central Dock to be resorted to if the alternative arrangement suggested should be held to be impracticable.

f. Inspection of Vessels ("infected" or from "infected port") :—

All vessels from "infected ports" have been inspected by the Port Medical Officer of Health and the Port Inspector of Nuisances since August 1892, and will continue to be so inspected. At all times the Port Medical Officer of Health inspects "infected" vessels.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health examines the ships' articles and musters and examines all hands on board, including, of course, passengers.

h. Address Book :—

No special address book kept.

i. Special Isolation Provision for Cholera :—

The Port Sanitary Authority's hospital. (*See* 14 above).

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons would be isolated at the hospital.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

Suitable land ambulance provided but no water ambulance. Patients would probably, under existing arrangements, be landed direct from the ship at the boarding station.

m. Arrangements made for disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods :—*

(*a.*) Washington Lyon's steam apparatus at hospital.

(*b.*) Sulphur fumigation. Swabbing with corrosive sublimate solution for woodwork and carbolic acid solution for iron.

(*c.*) None.

n. Arrangements made as to the Disposal of the Dead :—

No arrangements made at the time of inspection.

o. Action as to Water Supply of Vessels from Infected Ports :—

Water supply ordered to be pumped out before entering dock, tanks cleansed, and fresh water supplied by the Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges and water ballast ordered to be pumped out before coming into dock. Bilges cleansed with carbolic acid solution.

Final Conference with the Hartlepool Port Sanitary Authority was held on April 20th, 1893, when the only formal recommendation made had regard to the steps to be taken beforehand to secure, in the event of the extension of cholera to British Ports, the medical inspection by night, as well as by day, of all vessels coming coastwise as well as from foreign.

In addition to this formal recommendation, however, the Port Sanitary Authority was verbally advised to seriously consider the desirability of providing, either by themselves or in conjunction with some other Authority or Authorities, a more suitable isolation hospital; to put their Inspector of Nuisances in telephonic communication with their Medical Officer of Health; to make definite arrangements beforehand as to the burial of persons dying of cholera; and, if on further inquiry it should be found practicable, to fix a mooring station for cholera purposes in the bay.

Action taken by the Port Sanitary Authority since Inspection.

Owing to the occurrence of cholera at Hull and Grimsby, an Assistant Inspector of Nuisances, was employed from September 2nd till November 11th, and all vessels coming from those ports were boarded on arrival. [Annual Report of the Port Medical Officer of Health for 1893.]

Arrangements were also made for the burial of the cholera dead in Hartlepool Cemetery, and a mooring station for infected vessels was fixed, by resolution of the Port Sanitary Authority, in Hartlepool Bay, subject to the right of vessels to enter the harbour, if necessary, on account of the weather. [Letter from the Port Sanitary Authority dated May 19th, 1893.]

The River Tees Port Sanitary District.

[Middlesbrough (part of), Stockton (part of), Customs Ports.]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 3rd, 1893.

Date of Order *permanently* constituting Port Sanitary District: January 2nd 1886. Amended by Order dated June 30th 1888.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is a Joint Board termed "The River "Tees Port Sanitary Authority," and consists, of 17 members, composed as follows:

Middlesbrough Urban Sanitary Authority	-	Seven members.
Stockton " "	-	Three "
Eston " "	-	Two "
South Stockton [Thornaby] "	-	" "
Normanby " "	-	One "
Stockton Rural Sanitary Authority	-	Two "

The Port Sanitary Authority exercises port functions in waters abutting upon the Sanitary Districts named above, and also upon the Kirkleatham Urban Sanitary District and the Guisbrough, Hartlepool, and the Middlesbrough Rural Sanitary Districts.

2. *Limits of Jurisdiction :—*

" . . . So much of the said Ports of Middlesbrough and Stockton as lies between the bridge which crosses the River Tees at Stockton and an imaginary straight line drawn from and including the South Gare Breakwater to the point at which the Port of Middlesbrough joins the Port of Hartlepool; together with the waters,"* &c.

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

North Side of the Tees:—
- Hartlepool Rural Sanitary District. Parishes:—Seaton Carew (part of) and Greatham.
- Stockton Rural Sanitary District. Parishes:—Cowpen, Bewley and Billingham.
- Stockton Urban Sanitary District.

South Side of the Tees:—
- Kirkleatham Urban Sanitary District.
- Guisbrough Rural Sanitary District. Parish:—Wilton.
- Eston Urban Sanitary District.
- Normanby Urban Sanitary District.
- Middlesbrough Urban Sanitary District.
- Middlesbrough Rural Sanitary District. Parish:—Linthorpe.
- South Stockton [Thornaby] Urban Sanitary District.

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* See footnote, page 89, *ante*.

4. *Apportionment of Expenses :—*

The expenses are apportioned among the Constituent Authorities as under :—

Middlesbrough Urban Sanitary Authority	$\frac{14}{35}$
Stockton Urban Sanitary Authority	$\frac{6}{35}$
Eston Urban Sanitary Authority	$\frac{4}{35}$
South Stockton [Thornaby] Urban Sanitary Authority	$\frac{4}{35}$
Normanby Urban Sanitary Authority	$\frac{2}{35}$
Kirkleatham Urban Sanitary Authority	$\frac{1}{35}$
Stockton Rural Sanitary Authority	$\frac{4}{35}$
Guisbrough Rural Sanitary Authority	0
Hartlepool Rural Sanitary Authority	0
Middlesbrough Rural Sanitary Authority	0

5. *General Character and Efficiency of Administration :—*

Good.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*) :—

FOREIGN.—*Bilbao, Hamburg, Rotterdam, The Baltic.* Also a few vessels from Antwerp, Amsterdam, Skien, the Black Sea, Mediterranean, and America.

COASTWISE.—Chiefly *London* and the *Channel ports* for England. *Leith, Grangemouth, Dundee* and *Aberdeen* for Scotland. But practically vessels arrive from all British ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

FOREIGN.—*Imports.*—Iron ore. Wood pulp.
No rag trade, and no systematic passenger, immigrant, or transmigrant traffic.
Exports.—Pig iron, rails, salt, very little coal.

COASTWISE.—*Imports.*—General cargoes. Old iron.
Exports.—Same as foreign.

8. *Amount of Shipping Inwards during three years,* 1890-91-92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	1,312	805,505	1,137	717,806	1,023	677,879
	Sailing	158	45,708	143	53,489	113	25,321
	Fishing	*—	—	—	—	—	—
Total Foreign		1,470	851,213	1,280	771,295	1,136	703,200
Coastwise.	Steamers	2,189	640,927	2,206	643,968	1,931	535,017
	Sailing						
	Fishing	*—	—	—	—	—	—
Total Coastwise		2,189	640,927	2,206	643,968	1,931	535,017

* A little fishing done by larger yawls, which usually fish about 15 to 20 miles off the coast and do not visit foreign ports.

9. *Inland Water Communication*:—

None but the River Tees. Some foreign and many coasting vessels go up to Stockton (the Port Sanitary Authority's district extends to the bridge at Stockton) to discharge their cargoes. The river is also navigable for boats drawing five feet of water as far up as Yarm, but no cargoes are discharged there. Small pleasure boats can get still higher, but there is no barge traffic. Vessels going to Stockton are intercepted by the Customs and Port Sanitary Authority lower down the river.

10. *Lines of Railway Conveying Goods from Port*:—

The North-Eastern Railway and also the Scarborough and Whitby line under the management of the North-Eastern Railway.

11. *Medical Officer of Health*: John Andrew Malcomson.

Qualifications: M.D., M.Ch. Salary, 10*l*. per annum. No repayment. Dr. Malcomson also holds appointments of Medical Officer of Health to Middlesbrough and Eston Urban Sanitary Districts and Middlesbrough Rural Sanitary District; and is Physician to the Middlesbrough Fever Hospital.

Character and efficiency of work done by Medical Officer of Health:—Very good.

12. *Inspector of Nuisances*: James Jefferson.

No sanitary certificate. Salary, 143*l*. per annum and one suit of uniform. No repayment. Mr. Jefferson gives his whole time to his Port Sanitary duties.

Character and efficiency of work done by Inspector of Nuisances.—Very good. The Port Inspector of Nuisances, having served some years at sea, finally as second mate to a barque, has a good knowledge of shipping.

During danger of cholera in the autumn of 1892, an Assistant Port Inspector of Nuisances was appointed temporarily at a salary of 35*s*. per week.

13. *Nuisances*:—

Nuisances appeared to be efficiently dealt with.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	297	11	—
		Sailing	185	3	—
		Fishing	Nil.	—	—
		Total Foreign	482	14	14
	Coastwise	Steamers	1,517	51	60
		Sailing	453	11	—
		Fishing	Nil.	—	—
		Total Coastwise	1,970	62	60

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	352	111	96
		Sailing	186		
		Fishing	—		
		Total Foreign	538		
	Coastwise	Steamers	1,862		
		Sailing	381		
		Fishing	—		
		Total Coastwise	2,243	111	96
1892	Foreign	Steamers	322	196	184
		Sailing	488		
		Fishing	—		
		Total Foreign	810		
	Coastwise	Steamers	1,704		
		Sailing	379		
		Fishing	1		
		Total Coastwise	2,084*	196	184

* It will be observed that this Return, which was furnished by the Inspector of Nuisances, is not at first sight reconcilable with that of the Customs (*see* 8 above). Apparently, however, it includes repeated visits to vessels during their stay in port.

14. *Isolation Hospital*:—

The Port Sanitary Authority was at the time of inspection about to provide a floating hospital, for 20 beds, on the general plan of that belonging to the River Tyne Port Sanitary Authority. This hospital it is proposed to moor on the north side of the River Tees off Seal Sand. The site in question has been approved by the Tees Commissioners, who have undertaken to do the necessary dredging for the Port Sanitary Authority at cost price.

Pending the completion of the floating hospital, the Port Sanitary Authority would use, for isolation purposes, eight cottages put at their disposal by the Tees Commissioners at Seaton Snook. One of these cottages is already occupied by the Port Sanitary Authority's caretakers (man and wife), and another has been prepared for the reception of patients. Altogether the cottages would accommodate some 12 patients, and might be used in an emergency, though unsuitable for permanent hospital purposes.

15. *Disinfecting Apparatus.*

The Port Sanitary Authority did not, at the date of inspection, possess any disinfecting apparatus.

16. *Mortuary.*

None.

17. *Regulations under Section* 125 *Public Health Act* 1875

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889.

This Act has been adopted by the Middlesbrough Urban Sanitary Authority but not by the Port Sanitary Authority.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

At the "Dock Point" [in the channel, or the cutting leading to the dock] and at Eston Jetty.

No difference in boarding by night and day. All coasters are hailed at the Boarding Stations, but not always boarded there. A certain number are boarded afterwards at their moorings as time permits.

The Collector of Customs furnished the following statement :—

Customs Establishment.

1 Collector and Surveyor 4 Clerks 2 Examining Officers 5 Outdoor Officers	Indoor and Warehousing Staff.	All under the supervision of the Collector and Surveyor.
1 Chief Preventive Officer 6 Preventive Officers 21 Boatmen	Waterguard Staff.	

The Port for waterguard purposes is divided into three districts, viz., the Upper Reaches, the Boarding Station (Dock), and Eston Jetty. The staff is distributed as follows :—

1. Upper Reaches	2 Preventive Officers.* 4 Boatmen.
2. Eston Jetty	2 Preventive Officers. 4 Boatmen.
3. Boarding Stations	2 Preventive Officers. 13 Boatmen.

A system of 24 hours continuous employment prevails at this Port, so that at each of the first two stations there are always three officers on duty. At the Boarding Station the number varies according to the boarding requirements, but is never less than five.

The following list of Wharves, &c., are authorised places of debarkation :—

Newport Wharf, West Marsh Wharf, Britannia Wharf, Ayresome Wharf, Wirrals Wharf, Acklam Wharf, Linthorpe Wharf, Teeside Wharf, Watson's Wharf, Calder's Wharf, Tees Union Shipping Company's Wharf, Ferry Wharf, Pottery Wharf, Bolekow's Wharf, Dock, Cargo Fleet Timber Yard, Wilson, Pease, & Co.'s Wharf, Cochrane's Wharf, Cargo Fleet Wharf,

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* These "Upper Reach" officers and boatmen are engaged chiefly in visiting and re-rummaging vessels. One of them is always in attendance at Stockton from 6 a.m. to 6 p.m. from March to October, and from 8 a.m. to 4 p.m. in the remaining months. [Inspector.]

Normanby Wharf, Swan Coates Wharf, Eston Jetty, Redcar Wharf, Haverton Hill Wharf, Salt Jetty, Anderston Foundry Wharf, North-Eastern Railway Wharf, Bell Brothers Wharf.

(*b.*) *Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—*

Vessels would, when necessary, be detained by the Customs Officers at the Boarding Stations, where buoys are available, pending the arrival of the Port Medical Officer of Health.

Pilots have been ordered by the local Pilotage Board, by whom they are licensed, to obey the Customs Authorities with respect to detention, and to afford the Port Sanitary Authority every facility in the carrying out of the Cholera Orders.

(*c.*) *Arrangements for communication between Officials detaining Vessels and Medical Officer of Health:—*

Hitherto this has been by special messenger, but in view of the distance of the Boarding Stations, especially Eston Jetty, from the Port Medical Officer of Health's residence, the arrangement cannot be regarded as satisfactory. The telephone was, however, at the date of inspection, about to be connected with the Port Medical Officer of Health's residence, and it would be of great service for Port purposes, if an arrangement could also be made for connecting the two Boarding Stations.

(*d.*) *Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships;—*

The Port Sanitary Authority possesses a suitable and well-equipped steam launch for the conveyance of their officers. This launch, the "Osprey," was originally a steam yacht.

(*e.*) *Mooring Station:—*

Mooring Station fixed on the south side of the River Tees, about 600 yards below Eston Jetty. It had been approved by the Collector of Customs and appeared to be satisfactory.

(*f.*) *Inspection of Vessels* ("infected" or from "infected port"):—

All "infected" vessels are inspected by the Port Medical Officer of Health. During special danger of Cholera in the autumn of 1892, the Port Medical Officer of Health also inspected the vessels from "infected ports," and will do so again in the future should it appear necessary.

(*g.*) *Examination of Persons on Vessels* ("infected" or from "infected ports"):—

Upon inspecting "infected" vessels or vessels from "infected ports" the Port Medical Officer of Health examines the articles of such vessels and musters and examines all hands on board.

(*h.*) *Address Book:—*

Address book kept.

(*i.*) *Special Isolation Provision for Cholera:—*

Floating hospital for 20 beds about to be provided. Pending its completion, Cholera patients would be isolated in the cottages at Seaton Snook.

(*k.*) *Arrangements for Isolation of Persons suspected to be suffering from Cholera :—*

Suspected persons would either be detained upon the vessel in which they arrived, or isolated at the cottages at Seaton Snook, or the floating hospital, when it is ready.

(*l.*) *Means provided for Transfer of Infected Persons from ship to Hospital :—*

The Port Sanitary Authority's steam launch "Osprey," the fore cabin of which is fitted with a slinging stretcher bed for the purpose.

(*m.*) *Arrangements made for disinfection of* (*a*) *Clothes* (*b*) *Ship,* (*c*) *Goods :—*

(*a.*) Infected clothes would be burnt.
(*b.*) Woodwork swabbed with corrosive sublimate solution. Sulphur fumigation for cabins, &c.
(*c.*) None.

(*n.*) *Arrangements made as to the disposal of the Dead :—*

No definite arrangements made at the time of inspection.

(*o.*) *Action as to Water Supply of Vessels from Infected Ports :—*

Drinking water ordered to be pumped out and tanks cleansed and treated with lime. The Port Sanitary Authority did not, however, at the date of inspection, supply fresh water in lieu of that pumped out by its orders.

(*d.*) *Action as to Bilges of Vessels from Infected Ports :—*

Bilges ordered to be pumped out and treated with carbolic acid solution.

Final Conference with the River Tees Port Sanitary Authority was held on May 8th, 1893, when formal recommendations were made with regard to the following matters :—

1. The adoption of the Infectious Disease (Notification) Act, 1889.
2. The necessity for arrangements being made for the delivery by the Port Sanitary Authority of a proper supply of water for drinking and cooking purposes, for the use of persons on board vessels coming from infected ports.
3. The steps to be taken beforehand to ensure, in the event of cholera invading British ports, the medical inspection of all vessels coming coastwise as well as from foreign.

In addition to the above formal recommendations, the desirability of establishing telephonic communication between the Customs Boarding stations and the house of the Port Medical Officer of Health was urged upon the Authority.

Action taken by the Port Sanitary Authority since Inspection.

1. The Infectious Disease (Notification) Act, 1889, was adopted by the Port Sanitary Authority on June 12th, 1893, to come into force on August 1st, 1893. [Letter from the Port Sanitary Authority, dated June 20th, 1893.]

2. Arrangements made for the medical inspection of all vessels arriving both by night and by day from British infected ports—such vessels being visited by the Port Medical Officer of Health before anyone is allowed to go on board. [Letter from the Port Sanitary Authority, dated September 14th, 1893.]

Regulations under section 125 of the Public Health Act, 1875, have been adopted by this Port Sanitary Authority and were approved by the Local Government Board on December 23rd, 1893.

A public inquiry was held at Middlesbrough on April 22nd, 1893, by one of the Board's Inspectors with reference to an application from the River Tees Port Sanitary Authority for sanction to borrow the sum of 7,000*l.* for the provision of a floating isolation hospital capable of accommodating 20 patients. The hospital proposed was to be of a design and character generally similar to that provided by the River Tyne Port Sanitary Authority, though in this instance the wall and roof surfaces were to be covered with corrugated iron. The loan was sanctioned by the Board in 1893.

The new floating hospital is completed, furnished, and has an efficient matron and staff. The accommodation is for 20 beds. [Annual Report of the Port Medical Officer of Health for 1894.]

WHITBY URBAN RIPARIAN SANITARY DISTRICT.

[Whitby Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* August 4th, 1893.

This Riparian District is under the jurisdiction of the Local Board of the District of Whitby. The coastline of the district extends from Upgang Beck, which is the boundary of the township of Ruswarp, on the north, to a point on low-water mark, due north from the top of Green Lane. It comprises the following Riparian parishes:—Whitby, Ruswarp, and Hawsker-cum-Stainsacre (part of).

Shipping Trade:—

Foreign.—*Sweden, Norway,* and very occasionally Russia. [Söderhamn, Sundsvall, Carlscrona, Christiania, Gottenborg, Porsgrund, and Riga.]

Imports.—Timber, bark, and ice, from Norway and Sweden. Timber from Russia. No rags, passengers, immigrants, or transmigrants.

Exports.—None.

Coastwise.—Hartlepool, Blyth, Seaham, Newcastle, Grimsby, Hull, London, and occasionally from other ports.

Imports.—Coal, corn, general goods. No regular passenger trade, but excursion steamers in summer from Scarborough, Hartlepool, and Middlesbrough.

Exports.—Bricks, ironstone, and occasionally lead.

Amount of Shipping Inwards during Three Years, 1890-91-92.

	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign - Steamers	—	—	—	—	1	173
Foreign - Sailing	9	1,102	6	730	8	1,132
Foreign - Fishing	—	—	—	—	—	—
Total Foreign	9	1,102	6	730	9	1,305
Coastwise - Steamers	232	40,519	282	52,329	196	30,892
Coastwise - Sailing	304	40,544	280	38,016	234	28,552
Coastwise - Fishing	No record kept. See below.					
Total Coastwise	536	81,063	562	90,345	430	59,444

No Customs record kept as regards fishing vessels. There is, however, a fair fishing trade. In 1892, 205 fishing boats, with an aggregate tonnage of 962 tons, were registered at this port under the Sea Fisheries Act. All these fish out of the port, the larger of them going as far as the Dogger Bank. In addition the port is visited by a large fleet (sometimes numbering a hundred sail) of Scotch, Shields, Sunderland, Hartlepool, Filey, Scarborough, Hull, Lowestoft, Yarmouth, Penzance, Fowey, and Plymouth yawls and smaller boats. Complaint is made of nuisance arising from the discharge of bilge water and fish offal alongside the Fish Quay.

French fishing vessels formerly frequented the port but have not done so during the three years 1890-92.

The railways conveying goods from the Riparian District are the North-Eastern and the Scarborough and Whitby Railways. Practically no sea-borne goods, except fish, leave the district. There is no inland water communication.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (Thomas Tinley, M.D.) has apparently carried out his riparian duties in a satisfactory manner. The Urban Inspector of Nuisances (Richard Smith) had not, prior to date of inspection, carried out any inspection of vessels under the Public Health Acts.

For the purposes of isolating ship-borne cholera patients, the Urban Sanitary Authority had temporarily acquired an old brick building, originally used as a store, in a disused shipbuilding yard on the east side of the river Esk, and at the end of Church Street. This building, which measures internally 29′ × 16′, had been provided with a boarded floor and divided into two wards by a wooden partition. A small double-sash window had also been provided in each ward and a louvre ventilator at each end of the building. At the time of inspection it was furnished for two patients. There is no drainage, and slops would, it is said, be disinfected and buried. A special furnace had been built in the yard for cremating excreta, &c. There is no mortuary. Town water is laid on to the yard. The back of this "hospital" abuts on a public footpath, but unnecessary communication with the hospital is prevented by a high fence enclosing the shipbuilding yard. In the yard there is a cottage occupied by caretaker and family, and there is also a brick building containing an office and store-room which it is said could be used by nurses. These rooms had not, however, been prepared for this purpose. No provision had been made for cooking. Patients could be landed in the shipbuilding yard from the river at high water, but apparently not without difficulty at other times. There is a somewhat considerable population in the neighbourhood of this hospital.

For the purpose of isolating cases of other infectious disease the Urban Sanitary Authority has recently erected a small wooden hospital for six patients. This is situate in an isolated position in the corner of a field, and is rather less than a mile from the river. It might, therefore, if need arise, perhaps be available for sea-borne cholera. Slops are drained into a ditch and excreta buried in an adjoining field. Water is sent from the town. A small wooden mortuary has been erected at this hospital.

The Sanitary Authority has not provided any disinfecting apparatus.

The Infectious Disease (Notification) Act, 1889, was adopted on March 25th, 1891, but the Sanitary Authority had not drawn up any regulations under section 125 of the Public Health Act, 1875.

Arrangements made to carry out the Board's Cholera Orders.

a. Customs Boarding Station or Stations.—The Harbour. Vessels from foreign are ordinarily hailed coming through the bridge and boarded at the Quay. The Customs Staff consists of one Superintendent and one Outdoor Officer. They board vessels from foreign during the day, and at night such vessels are boarded by the Coastguard who take charge till the Customs arrive in the morning. The Coastguard put the health questions. Coasters are boarded at their moorings as time allows. The Customs have an open boat.

The Chief Officer of Customs has arranged with consignees of cargoes to advise him of the arrival of vessels from foreign, and as far as possible he will, during danger of cholera, board such vessels outside the harbour.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots.—"Infected" or "suspected vessels" would be detained at the mooring station and the Medical Officer of Health at once sent for.

Pilots are licensed by the Newcastle Trinity House. The Superintendent of Customs has sent them (by post) copies of the "Quarantine Regulations" for Pilots.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—Special messenger.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ship.—None provided by the Urban Sanitary Authority. Both the Customs and Coastguard are prepared to give passage to the Medical Officer of Health in their boat, or a boat could be hired if required.

e. Mooring Station.—Mooring Station fixed in the middle of the inner harbour (tidal) and approved by the Chief Officer of Customs. A mooring station outside would be more satisfactory, but it is said to be quite impracticable owing to the exposed character of the coast.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health will at once inspect any vessels reported as "infected," and any vessels from "infected ports," including English "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health will see the ships' articles, and muster and examine all hands on board.

h. Address Book.—Addresses will be taken. No special book kept.

i. Special Isolation Provision for Cholera.—Small "hospital" on the bank of the river, described above.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons would be detained for 48 hours either on the vessel or in "Cholera hospital," according to circumstances.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—The Sanitary Authority relies upon the ship's boat or ability to hire a boat. There is a stretcher in the town, but not one at hospital.

m. Arrangements made for disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods.*—
(*a.*) Cholera infected clothes would be burnt.
(*b.*) Corrosive sublimate solution and sulphur fumigation.
(*c.*) None.

n. Arrangements made as to disposal of the Dead.—The bodies of persons who had died of cholera would be buried with due precautions in Whitby Parish Cemetery, a special portion of land having been reserved for the purpose.

o. Action as to Water Supply of Vessels from Infected Ports.—The drinking water of such vessels will be pumped out before entering the harbour when possible. The tanks will be cleansed and disinfected. Fresh water will be supplied by the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports.—Bilges will be pumped out before entering the harbour when possible, and cleansed with solution of corrosive sublimate in the case of wooden ships, and carbolic acid solution in the case of iron ships.

Final Conference with the Whitby Urban (Riparian) Sanitary Authority was held on September 14th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity of securing the regular and systematic inspection of shipping under the Public Health Acts.
2. The provision of an efficient disinfecting apparatus.
3. The systematic medical inspection of all vessels arriving, whether by night or by day, from certain British ports already infected with cholera, and later on, if need arise, from any other ports which may become infected.

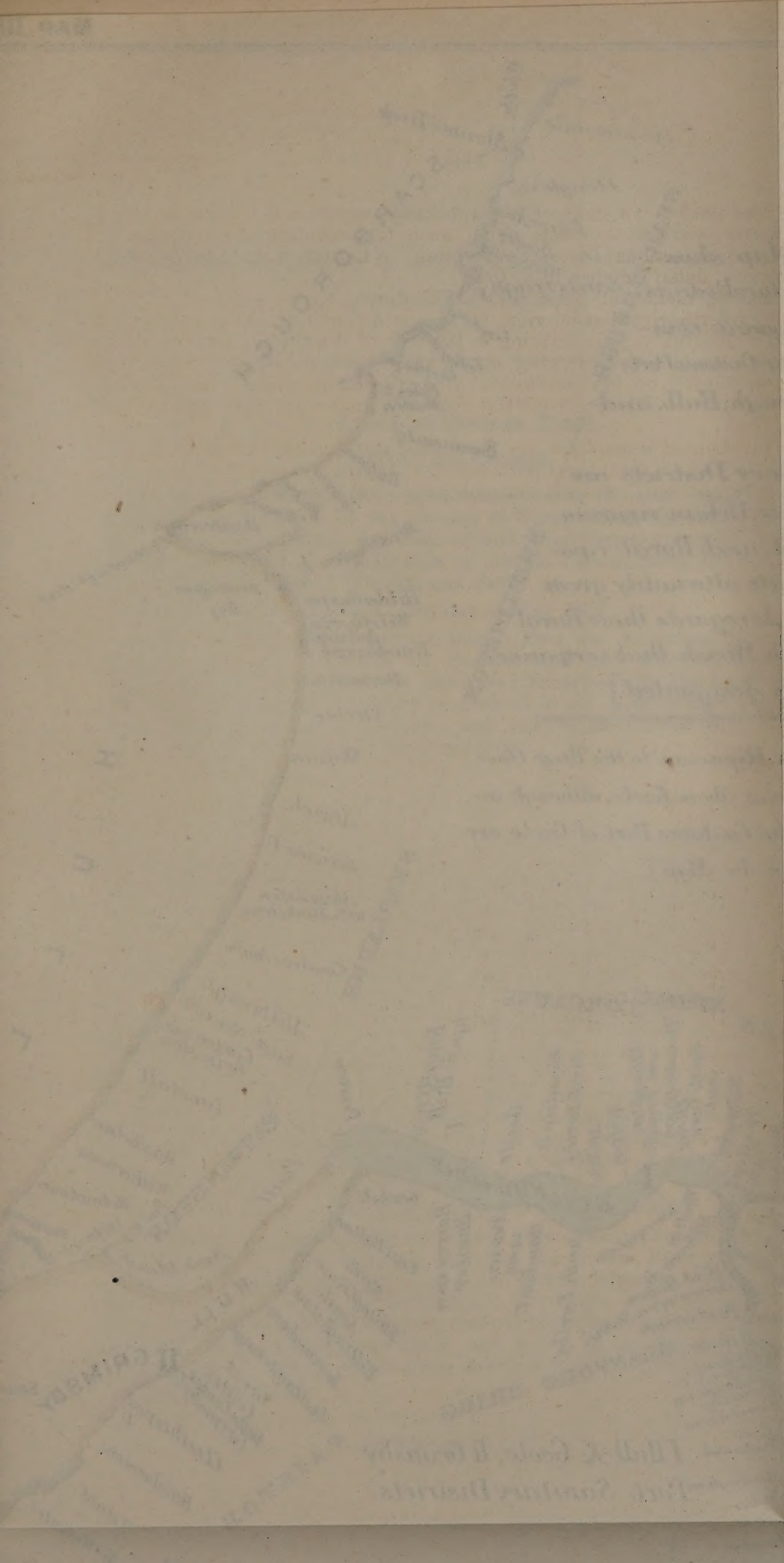
ACTION TAKEN BY THE URBAN SANITARY AUTHORITY SINCE INSPECTION.

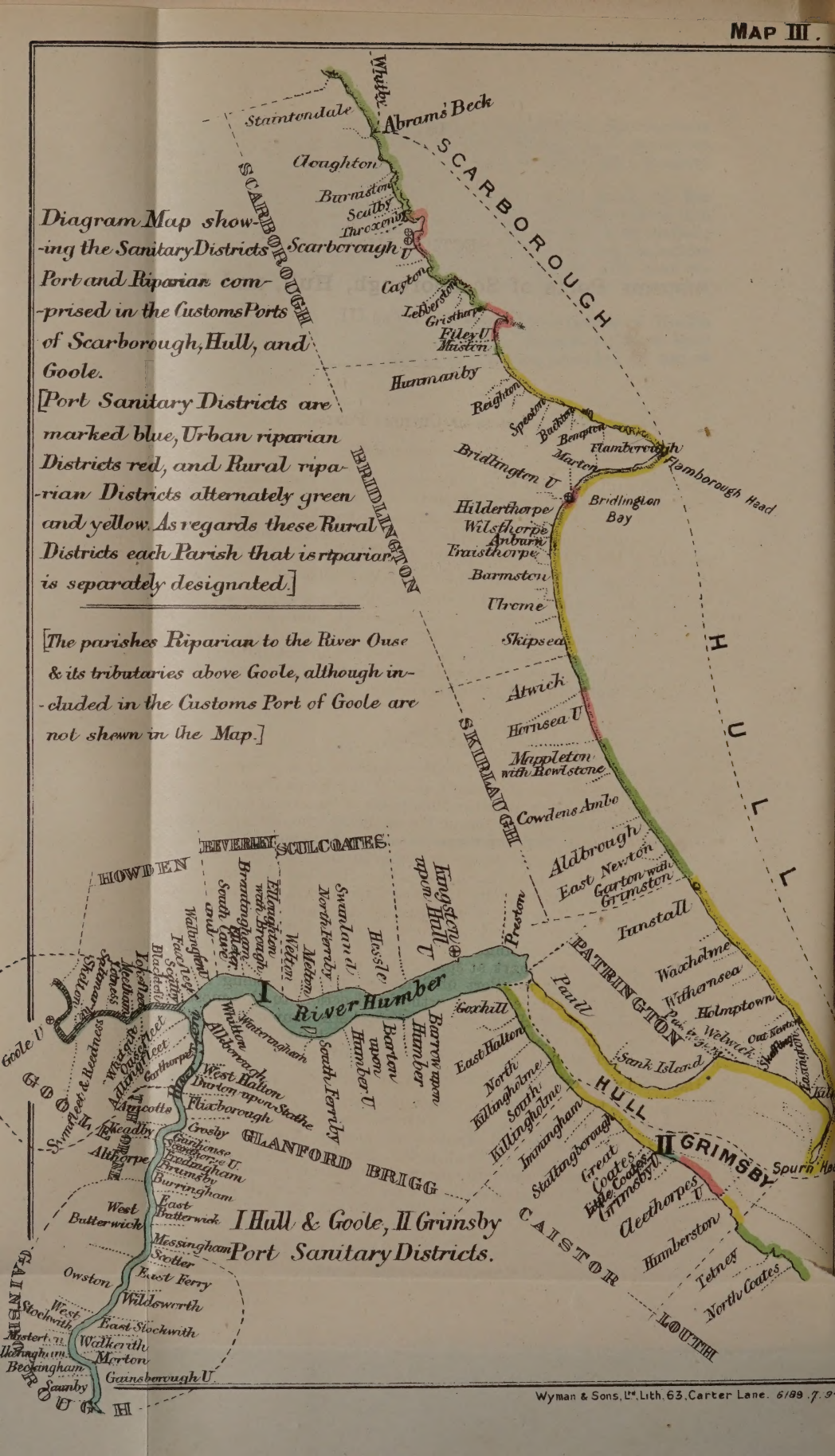
1. Inspection of shipping under the Public Health Acts carried out by the Inspector of Nuisances. [Letter from the Sanitary Authority, dated October 19th, 1893.]

2. The need for a disinfecting apparatus recognised by the Sanitary Authority, and arrangements being made for providing one in connexion with the Infectious Diseases Hospital. [Letter from the Sanitary Authority, dated October 19th, 1893.]

3. In the month of September 1893 directions were given by the Sanitary Authority that in view of the occurrence of cholera at certain British ports, all vessels arriving in the Port of Whitby should be visited; and with the object of carrying out of such directions two sub-inspectors were appointed by the Sanitary Authority and provided with boat accommodation. [Letter from the Sanitary Authority, dated September 21st, 1893.]

In his Annual Report for the year 1893 the Medical Officer of Health states that the precautions recommended by the Inspector "have been "duly carried out," and that an ambulance has been provided for use at the Cholera Hospital.





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SECTION III.

Customs Ports of Scarborough, Hull, and Goole.

Illustrated in Map III.

LIMITS OF CUSTOMS PORTS.

(10.) *Scarborough.*

The limits of the said Port shall commence at the most easterly point of Flamborough Head, in the County of York, being the northern boundary of the Port of Hull, and shall extend from thence along the coast of the said County to the south side of Abram's Beck, being the southern boundary of the Port of Whitby, and shall*

Date of Treasury Warrant, 23rd day of May 1865.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary Districts of Scarborough and Filey, and certain Parishes of the Rural Sanitary Districts of Scarborough and Bridlington. The shipping trade of this Port is confined to the Scarborough and Filey Urban Riparian Sanitary Districts, and reports as to these districts will be found at pages 139 and 143 respectively.

(11.) *Hull.*

The limits of the said Port shall commence at a straight line drawn from Faxfleet Ness, on the north side of the River Ouse, at or near its junction with the River Humber, to a point of land on the opposite side of the said River Ouse called Bosom Cross (being the eastern boundary of the Port of Goole), and shall extend up and include both sides of the River Trent as far as the Bridge at Gainsborough, and from Bosom Cross aforesaid it shall extend down the River Humber, and on both sides thereof to a supposed straight line drawn from Skitter Ness, on the Lincolnshire bank of the said River Humber, to Paull Lighthouse, on the Yorkshire side thereof (being the north-western boundary of the Port of Grimsby), and shall continue thence along the coast of the said River Humber, at low-water mark at spring tide, to the Spurn Point (being the northern boundary of the Port of Grimsby), and then along the coast of the County of Yorkshire, in a northerly direction, to the most easterly point of Flamborough Head (being the southern boundary of the Port of Scarborough), and shall extend seaward to a distance of three miles from low-water mark along the said coast, and shall*

Date of Treasury Warrant, 22nd day of November 1881.

Within the boundaries of this Customs Port are comprised a part of the Hull and Goole Port Sanitary District, the Urban Riparian Sanitary Districts of Bridlington and Hornsea, and certain Riparian Parishes of the Rural Sanitary Districts of Bridlington, Skirlaugh, and Patrington. Of these several districts, the shipping trade is practically confined to the Port Sanitary District of Hull and Goole, and to the Urban Riparian District of Bridlington. Reports as to these districts will be found at pages 148 and 145 respectively.

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* See footnote, page 78, *ante*.

(12.) *Goole.*

The Port of Goole commences at a supposed straight line drawn from Faxfleet Ness on the north side of the River Ouse at or near its junction with the Humber to a point of land called Bosom Cross on the opposite side of the said River Ouse at or near its confluence with the River Trent, and extends upwards from the said supposed straight line along and through the whole breadth of the said River Ouse, comprehending all rivers and streams falling into the same.

Date of Treasury Warrant, 19th January 1828.

The whole of this Customs Port is comprised within the boundaries of the Hull and Goole Port Sanitary District. See Report, page 148.

SCARBOROUGH URBAN RIPARIAN SANITARY DISTRICT.

[Scarborough Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* August 3rd, 1893.

This Riparian District is under the jurisdiction of the Town Council of the Borough of Scarborough. The coastline extends from Peasholm Beck on the north to White Nab Beck on the south.

Shipping Trade:—

FOREIGN.—*Brevig*, Christiania, *Christiansand*, Drammen, Drobak, Fredrickstadt, Kragero, Porsgrund, Gefle, *Gottenborg*, *Sundsvall*, Swartwik, Kemi, and occasionally from other Baltic ports.

Imports.—Ice from Norway, timber from Norway, Sweden, and Russia. No immigrants, transmigrants, or systematic passenger trade. No rags.

Exports.—Practically nil, a few bricks and herrings.

COASTWISE.—*London*, *Hartlepool*, Newcastle, Seaham Harbour, *Queensferry*, Grimsby, Cork, Dublin.

Imports.—Chiefly coal from Hartlepool, stone from Queensferry, general goods from London, timber and ice from Grimsby occasionally. One passenger steamer each week from London. Excursion steamers from Hartlepool, Whitby, Bridlington.

Exports.—Practically nil; a little salt fish and bricks.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890–91-92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	1	18	—	—
Foreign { Sailing	25	4,034	22	4,006	25	3,883
Foreign { Fishing	9	637	8	474	5	267
Total Foreign	34	4,671	31	4,498	30	4,150
Coastwise { Steamers	188	28,181	183	28,253	178	30,292
Coastwise { Sailing	139	12,066	155	11,341	138	9,812
Coastwise { Fishing	No records.					
Total Coastwise	327	40,247	338	39,594	316	40,104

In addition to the above there arrived from foreign ports, and anchored temporarily in the bay, sending boats ashore, the following vessels:—

In 1890:—8 fishing vessels (French), 2 yachts, 1 from Amsterdam, 1 from Stavanger. In 1891:—13 fishing vessels (French), 1 yacht from Stavanger. In 1892:—28 fishing vessels (French), 1 yacht from Laurvig.

The accuracy of the above figures so far as the fishing boats are concerned cannot be vouched for, as no official record is kept of them; they neither ship nor discharge cargo, and are therefore not included in the statistical returns; probably the numbers given are rather under the mark than over it.

Number of Fishing Boats registered at Scarborough.

1st Class Boats:

16 steam trawlers, vessels from 67 to 135 tons gross.
31 trawling smacks „ „ 50 „ 76 „
34 Live yawls „ „ 32 „ 45 „

2nd Class Boats:

8 half-decked cobles of about 10 tons.
51 open „ „ 1½ „
40 „ „ which are not registered at all.

Fishing Grounds.

1st Class:

Steam trawlers.—Within a radius of about 30 miles from Scarborough with the exception of three screw steamers which fish as far as 200 miles or more out in the North Sea.

Smacks.—On the Dogger and other banks, at distances varying from 40 to 150 miles from port, the longer voyages being made in the winter.

Yawls.—The majority within 50 miles of port; some, however, run as far as 100 miles from port.

2nd Class:

Cobles, both half-decked and open, fish within 10 or 12 miles of port. They use lines.

In addition to the vessels above-mentioned large numbers, sometimes as many as 300 at once, assemble from various parts of the coast for the Scarborough herring fishery, which lasts from the end of July until the middle of October. For the first half of the season these principally come from Lowestoft, Yarmouth, Penzance, and St. Ives, for the second half from Berwick, Leith, Montrose, Peterhead, Banff, Inverness, and other ports on the east coast of Scotland.

The herring fishery is carried on along the coast at distances varying between 10 and 40 miles away, the boats engaged in it are decked vessels of from 20 to 40 tons. Very few of the Scarborough fishing vessels (about 6 yawls and 6 half-decked cobles) take part in the herring fishery; their methods of fishing and the localities in which they fish have been already given. It is probable that of late years no fishing vessel sailing out of Scarborough has approached within 150 miles of a foreign coast.

Some of the vessels will occasionally proceed to and fish out of other English ports (principally Grimsby), during which time of course their place of fishing will be changed.

It is impossible to give particulars of the number and tonnage of fishing vessels arriving coastwise or from the home grounds, as no record is or can well be kept. The number may, however, be roughly estimated at about 8,000 per annum of the first class boats.

Goods are conveyed from the district by the North-Eastern and by the Scarborough and Whitby Railways.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (H. G. H. Monk, M.R.C.S.) has carried out his riparian duties in a satisfactory manner. The Urban Inspector of Nuisances (James Bastiman) had not, prior to the inspection, carried out any inspection of vessels under the Public Health Acts.

For the purpose of isolating shipborne cholera the Urban Sanitary Authority proposed to use a "look-out house" situate in a convenient position near the harbour. This consists of a wooden building containing one room, measuring 21 ft. × 15 ft. × 8 ft., for patients, and a small room 8 ft. × 8 ft. × 8 ft., fitted with a cooking stove, and intended for use of nurse. A watercloset had been provided in an annexe, and the town water laid on. Drainage into town sewer, excreta to be disinfected and sent in air-tight pails to town's yard and there burnt. No mortuary

or laundry. In addition to the "look-out house," the Authority is retaining the old infectious diseases hospital, situate about half-a-mile from the harbour, for cholera convalescents. This hospital will accommodate some 20 patients, and is provided with laundry, mortuary, &c. There is a Ransom's hot-air disinfecting apparatus in the old hospital. But cholera-infected clothes would be burnt.

Notification of infectious diseases has been in force since August 12th, 1889, under a local Act. No regulations have been made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—At the entrance to the harbour. Vessels are interrogated at the pier head and boarded in the harbour. The harbour is the only place of debarkation in the district. Foreign fishing vessels usually anchor in the bay, and are sometimes boarded there, but not always. If not so boarded, their boats are stopped and examined if they attempt to land at the harbour. It is possible, however, for them to land at the beach. Foreign coming vessels are boarded at night as by day. Coasters boarded as time allows.

The Customs Establishment consists of a Superintendent and one Outdoor Officer, with an additional boatman during the herring season. Customs have no regular boat, but hire one in the herring season. Coastguards Establishment: One Chief Officer and six Boatmen. Some danger might result from the fact of the fishing boats from foreign usually anchoring in the bay, instead of coming into port, as it sometimes happens that they land by boat on the beach before they have been boarded.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguards, and by Pilots.—"Infected" or "suspected vessels" would be detained for 12 hours if necessary, and the Medical Officer of Health sent for immediately.

There are no licensed Pilots. A few fishermen act as Pilots, and the Chief Officer of Customs has furnished them with printed notice of the Quarantine Regulations for Pilots.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—Telephone during the day and special messenger at night.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—None provided. The Medical Officer of Health hires a boat when necessary.

e. Mooring Station.—Mooring station fixed about half-a-mile seaward of the lighthouse pier. It is within the Customs port and the Urban Sanitary District, and has been approved by the Chief Officer of Customs. In bad weather vessels would have to be allowed to enter the harbour.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health inspects all vessels, including fishing boats, from "infected" ports. The Customs Officer notifies their arrival, and Medical Officer of Health goes out in a boat to meet them.

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health sees the ships' articles and musters and examines all hands on board.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—The "look-out house" referred to above.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons would be detained either on board the vessel or in the "cholera hospital."

l. Means provided for transfer of infected Persons from Ship to Hospital.—For conveying patients from the ship to shore the ship's boat would be

used or a boat hired. The Urban Sanitary Authority has provided a stretcher, which is kept on the pier. It also possesses two horse ambulances.

m. Arrangements made for disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods.*—
(*a.*) Infected clothes would be burnt.
(*b.*) Sulphur fumigation and corrosive sublimate solution.
(*c.*) None.

n. Arrangements as to the disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—Water ordered to be pumped out before entering the harbour; tanks cleansed, and fresh water supplied.

p. Action as to Bilges of Vessels from Infected Ports.—Bilge water ordered to be pumped out before entering the harbour, and bilges disinfected with solution of corrosive sublimate.

Final Conference with the Scarborough Urban Riparian Authority was held on September 14th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity of exercising regular and thorough supervision over all vessels entering the district with a view to the abatement of nuisances and unwholesome conditions generally.
2. The adoption of regulations under section 125 of the Public Health Act, 1875.
3. The steps to be taken to secure medical inspection—by night as well as by day—of all vessels entering the district and coming from "infected ports."

Action taken by the Urban Riparian Sanitary Authority since Inspection.

At the Final Conference it was found that an additional room, measuring 12 feet by 10 feet by 9 feet, had been added to the "Cholera Hospital" (the "Look-out House") for the use, if need be, of a nurse.

During the autumn of 1893 instructions were given by the Urban Sanitary Authority to the Medical Officer of Health to inspect *all* vessels arriving in the district, whether by day or by night. [Letter from the Sanitary Authority, dated September 26ta, 1893.]

At the request of the Urban Sanitary Authority, an Order was issued by the Local Government Board on August 27th, 1894, adding choleraic diarrhœa to the diseases compulsorily notifiable within the District until September 30th, 1894.

FILEY URBAN RIPARIAN SANITARY DISTRICT.

[Scarborough Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* August 1st, 1893.

The Riparian District is under the jurisdiction of the Urban Sanitary Authority of Filey. The coastline of the district extends from "Great Shoot" on the north to Bentley's Gill in the south. It comprises the parish of Filey only, the parish and Urban District being co-extensive.

Shipping Trade.—Practically none with foreign countries, three years before the date of inspection a vessel from the Baltic landed a passenger at Filey.

Coastwise.—*Hartlepool*, Blyth, Newcastle, Seaham Harbour, Hull, Grimsby, and occasionally from London.

Imports.—Coal, patent fuel, cement, bricks, and wood.

Exports.—None.

The coasting trade is carried on chiefly by small sailing vessels, occasionally by a small steamer.

Amount of Shipping Inwards during Three Years, 1890–91–92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	—	—	—	—	—	—
	Sailing	—	—	—	—	—	—
	Fishing	—	—	—	—	—	—
Total Foreign		—	—	—	—	—	—
Coastwise	Steamers	—	—	—	—	—	—
	Sailing	17	665	24	934	24	976
	Fishing	16	461	16	461	16	461
Total Coastwise		33	1,126	40	1,395	40	1,437

There is no harbour or quay at Filey. Cargo vessels arriving there, run upon the beach and discharge their cargoes into carts, when the tide has ebbed sufficiently to enable them to come alongside. These vessels are mostly from the coal ports of Durham and Northumberland.

In the summer-time a few Dutch fishing vessels anchor in the bay for a few hours, when on their way to the fishing grounds off the Scotch coast.

The North-Eastern Railway conveys goods from this Riparian District but practically no sea-borne goods, except fish, leave the district.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (Hugh Orr, L.R.C.P.) has carried out his riparian duties in a satisfactory manner. The Urban Inspector of Nuisances (Richard Jesse Stevenson) had not prior to date of inspection carried out any inspection of vessels under the Public Health Acts.

The Urban Sanitary Authority does not possess any isolation hospital, disinfecting apparatus, or mortuary.

No regulations under section 125 of the Public Health Act, 1875, have been made, nor has the Infectious Disease (Notification) Act, 1889, been adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—No Customs Officer stationed at Filey. Coastguard Establishment consists of one Chief Officer, and four Boatmen, who perform Customs duty. All vessels arriving are boarded at the beach and health questions put. If cholera broke out in ports trading with Filey the coastguards would board vessels from such ports in the bay. The Coastguards have one sailing boat.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots.—"Infected" or "suspected vessels" would be detained by the Coastguards and no one allowed to go ashore pending arrival of the Medical Officer of Health.

No licensed Pilots at Filey.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—By special messenger.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—None.

e. Mooring Station.—None fixed.

f. Inspection of Vessels ("infected" and from "infected port").—The Medical Officer of Health will inspect all vessels from "infected ports."

g. Examination of Persons on Vessels ("infected" and from "infected port").—He will see the ships' articles and examine all on board.

h. Address Book.—None kept.

i. Special Isolation Provision for Cholera.—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made. Such persons would have to be detained on board ship.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—None. No ambulance or stretcher.

m. Arrangements made for disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods.*—

(*a.*) Infected clothes would be burnt.
(*b.*) Sulphur fumigation and corrosive sublimate solution.
(*c.*) None.

n. Arrangements as to disposal of the Dead.—None made, but it was stated that the burial authorities would raise no difficulty.

o. Action as to Water Supply of Vessels from Infected Ports.—Drinking water would be pumped out and fresh water supplied. Tanks would be cleansed with solution of permanganate of potash.

p. Action as to Bilges of Vessels from Infected Ports.—Bilges would be pumped out and disinfected with corrosive sublimate solution.

Final Conference with the Filey Urban Riparian Sanitary Authority was held on September 15th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity of exercising such supervision over vessels entering the district or to secure the abatement of nuisances and of unwholesome conditions generally.
2. The special duties and obligations devolving upon the Sanitary Authority under the Cholera Orders and Regulations of the Local Government Board.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

The inspection of fishing boats, and of vessels from "infected ports," decided upon by the Sanitary Authority. [Letter from the Sanitary Authority, dated December 12th, 1893.]

No information as to any further action in connexion with this Authority's Riparian Duties. [September 1895.]

BRIDLINGTON URBAN RIPARIAN SANITARY DISTRICT.

[Hull Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection*: August 2nd, 1893.

This Riparian District is under the jurisdiction of the Bridlington Urban Sanitary Authority. The coastline extends from Sands Cottage on the north to Apple-pie Cottage on the south.

Shipping Trade:—

FOREIGN.—Danzig, Riga, Stockholm, Sundsvall, *Calais*, Dunkirk, *Boulogne*, Brest, Lorient, and Hamburg.

Imports.—Wood from Baltic ports. Fish from other places. No passengers, immigrants, transmigrants, or rags from foreign.

Exports:—None.

COASTWISE.—*London, Hull, Newcastle, Seaham Harbour,* The Tees, Scarborough, Grimsby, Burnham (Norfolk), and occasionally from other ports.

Imports.—Bones from London, manure (artificial) from Hull, coals from Seaham. No systematic passenger trade. Frequent excursion steamers from Scarborough in summer.

Exports.—None.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890–91–92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	1	239
Foreign { Sailing	7	1,312	6	907	4	578
Foreign { Fishing	—	—	1	69	6	203
Total Foreign	7	1,312	7	976	11	1,020
Coastwise { Steamers	43	1,797	60	2,177	70	2,631
Coastwise { Sailing	21	1,126	23	1,636	22	1,253
Coastwise { Fishing	172	6,581	269	10,066	143	8,873
Total Coastwise	236	9,504	352	13,879	235	12,757

There are 13 first-class fishing boats which make two voyages per week, from and to the Dogger Bank in the North Sea, and probably these boats may have dealings with foreign fishing boats.

The second-class boats, which are nine in number, do not go farther than eight miles from land. These vessels may, however, also come in contact with foreign boats.

The North-Eastern Railway conveys goods from this Riparian District.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (W. A. Wetwan, M.R.C.S.) has carried out his riparian duties in a satisfactory manner, and is well acquainted with the requirements of the Cholera Orders. The Urban Inspector of Nuisances (Francis Reed) had only recently been appointed at the date of inspection; but he had inspected several vessels since his appointment.

The Sanitary Authority possesses no permanent isolation accommodation. It has, however, purchased three marquees, two measuring 30 feet by 16 feet and one 40 feet by 16 feet, as temporary hospital provision. A site had not been obtained at the time of inspection. No disinfecting apparatus or mortuary had been provided.

The Infectious Disease (Notification) Act, 1889, had not been adopted, nor had any regulations under section 125 of the Public Health Act, 1875, been drawn up.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—No Customs officer is stationed at Bridlington, but it is visited once or twice a week from Hull. The Chief Officer of Coastguards at Bridlington is, however, appointed by the Board of Trade to act for the Customs during their absence. All foreign and coastwise vessels are interrogated as to health from the pier head, and boarded as soon as they get into the harbour. This practice is carried out both by night and by day. On arrival of vessels from foreign, Coastguards telegraph to Customs at Hull, who send over an Officer.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—Infected or suspected vessels would be detained by the Coastguards at the mooring station and the Medical Officer of Health sent for.

No licensed Pilots. Some fishermen act as pilots, and they have been warned both by the Chief Officer of Coastguards and the Medical Officer of Health not to board "infected" vessels, but at once to notify the arrival of such vessels to the former officer.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—By special messenger.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—None. The Medical Officer of Health hires a boat when required, and there is said to be no difficulty in doing so.

e. Mooring Station.—Mooring station fixed in Bridlington Bay, about 1½ mile north-east of Bridlington. This is in the Hull Customs port, and has been approved by the Chief Officer of Coastguards at Bridlington, who is appointed to act for the Customs. It is, however, in water abutting on the Bridlington Rural Sanitary District.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health will inspect all vessels from "infected ports" before they enter the harbour. Their arrival is notified to him by the Coastguards in time to enable him to go out and meet them.

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health will consult the ship's articles and muster and examine all hands on board.

h. Address Book.—Address book kept.

i. Special Isolation Provision for Cholera.—The three marquees referred to above.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons would be detained on the vessel.

l. Means provided for transfer of infected Persons from Ship to Hospital.—None.

m. Arrangements made for disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods.*—

(*a.*) Would be burnt.

(*b*) Sulphur fumigation. Swabbing with solution of corrosive sublimate.

(*c.*) None.

n. Arrangements as to the disposal of the Dead.—The Burial Board has set aside a portion of Bridlington Parish Cemetery for the burial of the cholera dead.

o. Action as to Water Supply of Vessels from Infected Ports.—Drinking-water will be ordered to be pumped out from such vessels before they enter the harbour; tanks disiniected with permanganate of potash solution and fresh water supplied.

p. Action as to Bilges of Vessels from Infected Ports.—Bilges will be ordered to be pumped out before entering the harbour, and cleansed with corrosive sublimate solution.

Final Conference with the Bridlington Urban Riparian Sanitary Authority was held on September 16th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity of systematic inspection under the Public Health Acts of all vessels entering the district.
2. The provision without further delay of proper isolation accommodation; such provision to include a laundry, mortuary, disinfecting apparatus, and an ambulance.
3. The adoption of the Infectious Disease (Notification) Act, 1889.
4. The steps to be taken to secure the medical inspection—by night and by day—of all vessels entering the district and coming from "infected" ports, whether from foreign or coastwise.

ACTION TAKEN BY THE RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

1. During the year 1893, under the Public Health Acts, 146 vessels were inspected by the Inspector of Nuisances. [Report of Inspector of Nuisances appended to Annual Report of the Medical Officer of Health for the year 1893.]

2. A permanent isolation hospital is in contemplation for this district; a site has been selected and plans prepared. [Inspector, May 6th, 1895.]

3. The adoption of the Infectious Disease (Notification) Act, 1889, was moved at a meeting of the Urban Sanitary Authority, on October 31st, 1893, by the Chairman of the Sanitary Committee, but the motion was not carried. [Letter from the Sanitary Authority, dated November 1st, 1893.]

4. Arrangements made during the autumn of 1893, for the medical inspection of every vessel entering the district. [Letter from the Sanitary Authority, dated October 4th, 1893.]

Mooring Station outside Urban Riparian District sanctioned by Special Order of Board dated December 7th, 1893.

During the year 1894, under the Public Health Acts, 200 vessels were inspected by the Inspector of Nuisances. [Report of Inspector of Nuisances appended to Annual Report of the Medical Officer of Health for the year 1894.]

Hull and Goole Port Sanitary District.

[Goole (all) Hull (part) Customs Ports.]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 15th, 1893.

Date of Order *permanently* constituting Port Sanitary District: June 11th, 1887.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The Hull "and Goole Port Sanitary Authority" composed as follows:

Kingston-upon-Hull Urban Sanitary Authority, three members.

Goole Urban Sanitary Authority, two members.

The Port Sanitary Authority discharges port functions in waters abutting upon the Kingston-upon-Hull, Gainsborough, Scunthorpe, Goole, Barton-upon-Humber, and South Cave and Wallingfen Urban Sanitary Districts, and upon the Sculcoates, Beverley, Howden, and Goole, Thorne, Gainsborough, Glanford Brigg Rural Sanitary Districts. But see remarks below under headings 2 and 3.

2. *Limits of Jurisdiction:—*

"The whole of the said Port of Goole and to so much of the said Port of Hull as lies between the easterly limit of the said Port of Goole and an imaginary straight line drawn across the River Humber from Skitter Ness to a point on the opposite coast at the boundary between the Townships of Preston and Paul; together with the waters."*

The limits of the Port of Goole are defined as follows:—

"The Port commences at a supposed straight line drawn from Faxfleet Ness on the north side of the River Ouse at or near its junction with the Humber to a point of land called Bosom Cross, on the opposite side of the said River Ouse at or near its confluence with the said River Trent, and extends upwards from the said supposed straight line along and through the whole breadth of the said River Ouse, comprehending all rivers and streams falling into the same."

The above definition of the limits of jurisdiction seems open to serious objection, for since the Port of Goole includes the *whole of the River Ouse* and "all rivers and streams falling into" it, it follows that the jurisdiction of the Hull and Goole Port Sanitary Authority also extends over the whole River Ouse and its tributaries, so that a case of cholera or other infectious disease occurring in a barge at York should in strictness be dealt with by the Hull and Goole Port Sanitary Authority. Similarly that portion of the Customs Port of Hull which is within the jurisdiction of the Hull and Goole Port Sanitary Authority, extends up the River Trent as far as Gainsborough. It seems desirable therefore that the area of the Port Sanitary Authority's jurisdiction should be reduced.

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* See footnote, page 89, *ante*.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Kingston-upon-Hull Urban Sanitary District.
Goole Urban Sanitary District.
Barton-upon-Humber Urban Sanitary District.
South Cave and Wallingfen Urban Sanitary District.
Scunthorpe Urban Sanitary District.
Gainsborough Urban Sanitary District.
Sculcoates Rural Sanitary District. Parishes :—
Preston, Hessle, Swanland, North Ferriby, Melton, and Welton.
Beverley Rural Sanitary District. Parishes :—
Elloughton with Brough, Brankingham and Ellerker.
Howden Rural Sanitary District. Parishes :—
Faxfleet, Scalby, Blacktoft, Yokefleet, Metham, Cotness, Saltmarshe, Skelton, Kilpin, Howden, Knedlington, Asselby, Barmby, and Hemingbrough.
Glanford Brigg Rural Sanitary District. Parishes :—
Coxhill, Barrow-upon-Humber, South Ferriby, Winteringham, Whitton, Alkborough, West Halton, Burton-upon-Stather, Flixborough, Crossby, Gunhouse, Frodingham, Brumby, Burringham, East Butterwick, and Messingham.
Goole Rural Sanitary District. Parishes :—
Armin, Hook, Goole, Swinfleet and Redness, Whitgift, Ousefleet, Adlingfleet, and Garthorpe.
Thorne Rural Sanitary District. Parishes :—
Amcotts, Keadby, and Althorpe.
Gainsborough Rural Sanitary District. Parishes :—
West Butterwick, Owston, West Stockwith, Misterton, Walkeringham, Beckingham, Saundby, Scotter, East Ferry, Wildsworth, Greenhill, East Stockwith, Walkerith, and Morton.

As the Port Sanitary District at present embraces the whole of the Goole Customs Port, which includes the whole of the River Ouse and its tributaries, the York, Selby, and Leeds Urban Sanitary Districts, and various other Sanitary Districts (Urban and Rural) should apparently be added.

4. *Apportionment of Expenses :—*

The expenses are borne by the Constituent Authorities in the following proportions :—
Kingston-upon-Hull Urban Sanitary Authority, four-fifths.
Goole Urban Sanitary Authority, one-fifth.

5. *General Character and Efficiency of Administration :—*

Administration actively and efficiently carried out.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign.—*Rotterdam*, *Amsterdam*, *Antwerp*, *Hamburg*, *Copenhagen*, *Gottenborg*, *Christiania*, Rouen, Bordeaux, Baltic ports generally, the Mediterranean, India, Australia, and North America.

Coastwise.—*London*, *Leith*, *Dundee*, *Aberdeen*, and many other British ports. Very little trade with Ireland.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Foreign :—

Imports.—General merchandise, a quantity of ice from Norway and some from Canada, corn, hides, wool, cotton

butter, sugar, and fruit from Hamburg, Rotterdam, Amsterdam, &c. Large rag trade with Hamburg, Rotterdam, Amsterdam, Antwerp, Rouen, Bordeaux, and other places. Considerable passenger trade with Hamburg, Antwerp, Rotterdam, Amsterdam, Gottenborg, Bergen, Christiania, Riga, Cronstadt, St. Petersburg, Dantzig, Rouen, and other foreign ports. A large number of transmigrants (about 60,000 annually), mostly en route for America, viâ Liverpool, from Norway, Sweden, Russia, Denmark, and Germany; also some immigrants from Rotterdam for Manchester and London. Since the cholera epidemic in the autumn of 1892 the transmigrant traffic with Hamburg has ceased, but many of the transmigrants (Polish and Russian Jews) who formerly came through Hamburg were, at the time of inspection, coming through Rotterdam.

Exports.—Chiefly cotton yarn, machinery, coal, iron and steel, and general merchandise.

COASTWISE :—

Imports.—Spirits, iron, general merchandise, rags from Liverpool, London, Grangemouth, Louth, and Bristol. Considerable passenger traffic with Goole, Gainsborough, Grimsby, London, Lynn, Boston, Newcastle, Leith, Dundee, Grangemouth, Aberdeen, Yarmouth, Ipswich, Plymouth, Bristol, and Cardiff.

Exports.—Cake, oil, grain, paint, iron, fish, grocery, drapery, paper, &c., and rags to Newcastle, Aberdeen, and Leith.

8.—*Amount of Shipping Inwards during three years*, 1890–91–92 :—

PORT OF HULL.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	2,718	1,813,208	2,818	1,932,000	2,907	1,947,498
Foreign { Sailing	634	262,128	594	237,607	599	275,431
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	3,352	2,075,336	3,412	2,169,607	3,506	2,222,929
Coastwise { Steamers	2,457	533,297	2,359	502,940	2,447	526,072
Coastwise { Sailing						
Coastwise { Fishing	4,347	307,789	5,006	329,301	5,144	331,278
Total Coastwise	6,804	841,086	7,365	832,241	7,591	857,350

PORT OF GOOLE.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	1,175	387,464	1,227	421,727	1,165	412,928
Foreign { Sailing	174	54,093	131	43,581	137	47,363
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	1,349	441,557	1,358	465,308	1,302	460,291
Coastwise { Steamers	818	232,521	888	270,740	983	295,839
Coastwise { Sailing	538	38,567	395	26,567	498	35,617
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	1,356	271,088	1,283	297,307	1,481	331,456

The fishing vessels as a rule arrive from the fishing grounds in the North Sea only; but to this there are occasional exceptions where the vessels visit ports in Norway, Denmark, Holland, Belgium, or Iceland.

9. *Inland Water Communication:—*

1. The Aire and Calder Navigation to Wakefield and, by junction with other canals, to Leeds, Bradford, Huddersfield, and Barnsley, and through Lancashire to Manchester and Liverpool.
2. The Trent Navigation to Keadby and Gainsborough.
3. The Ouse Navigation to York.

A quantity of seaborne timber, rags, wool, &c., go up the Aire and Calder navigation.

The Trent traffic consists mainly of timber to Keadby, the boats bringing back coal.

Considerable traffic of one and another sort up the Ouse.

All canal boats at Hull are carefully inspected by the Urban Inspector of Canal Boats.

10. *Lines of Railway conveying Goods from Port:—*

From Hull.—North-Eastern, Manchester Sheffield and Lincolnshire, London and North-Western, Lancashire and Yorkshire, and Hull and Barnsley, Railways.

From Goole.—North-Eastern, Manchester Sheffield and Lincolnshire, and Lancashire and Yorkshire Railways.

11. *Medical Officer of Health:* John Wright Mason.

Qualifications;—M.B. and C. M. Aber., D.P.H. Salary 90*l.* a year, without repayment.

Dr. Mason also holds the appointments of Medical Officer of Health to the Hull Urban Sanitary District and of Medical Officer to the Urban Fever Hospital.

Permanent Assistant Port Medical Officer of Health:—John Borrill Close, M.D., Durham, L.R.C.P.L. and M.R.C.S.E. Dr. Close acts for the Port and Urban Districts at a salary of 10*l.* per annum and a guinea a day when on duty. During danger of cholera in 1892 a Deputy Port Medical Officer of Health living at Goole was appointed to see any cases of sickness occurring there on vessels after leaving Hull.

Character and efficiency of work done by Medical Officers of Health:—Highly efficient.

12. *Inspector of Nuisances:* William Henry Crane (formerly a shipwright).

Qualifications:—Cert. San. Inst. Lond. Salary, 125*l.* a year and uniform; without repayment.

Mr. Crane devotes his whole time to his duties as Port Inspector of Nuisances.

Assistant Port Inspector of Nuisances, Frank Stokes (permanent), salary 28*s.* a week (formerly in Royal Marines). During danger of cholera in the autumn of 1892 an additional (temporary) Port Inspector of Nuisances was appointed. (Ex. Shipwright.)

Character and efficiency of work done by Inspectors of Nuisances:—Very good.

13. *Nuisances :—*

Vessels are intelligently inspected in this Port Sanitary District, and nuisances appear to be efficiently dealt with.

INSPECTION OF SHIPPING IN 1890-91-92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foriegn	Steamers	1,824	210	16
		Sailing	485	113	14
		Fishing	198	41	—
		Total Foreign	2,507	364	30
	Coast-wise.	Steamers	178	17	—
		Sailing	619	61	15
		Fishing	—	—	—
		Total Coastwise	797	78	15
1891	Foreign	Steamers	2,012	200	18
		Sailing	673	113	37
		Fishing	259	47	—
		Total Foreign	2,944	360	55
	Coast-wise.	Steamers	342	16	6
		Sailing	605	120	18
		Fishing	—	—	—
		Total Coastwise	947	136	24
1892	Foreign	Steamers	2,608	164	11
		Sailing	716	57	18
		Fishing	313	28	—
		Total Foreign	3,637	249	29
	Coast-wise.	Steamers	496	24	4
		Sailing	807	90	18
		Fishing	—	—	—
		Total Coastwise	1,303	114	22

In addition to the formal orders served 1,024 letters were written in the three years 1890–92 (1890–340, 1891–363, 1892–321) to owners or masters of vessels drawing their attention to defects on board vessels, and in the same period 2,464 extra visits (1890–560, 1891–675 and 1892–1,229) were made to see work carried out.

14. *Isolation Hospital :—*

The Port Sanitary Authority has the use of a wooden hospital (The "Garrison" Hospital) for 50 beds, with annexed brick administrative building. This was originally built in 1863 but has since been added to. It is conveniently situated for landing patients from the river and there is room for the erection of

tents if required. It is kept in readiness. Hull Corporation Water Supply. Drainage into tidal river. Excrement disposal by w.c's. Small laundry provided. This Hospital might perhaps serve for cholera purposes, but it is open to criticism on the ground of arrangement.

The Urban Sanitary Authority possesses a large permanent Isolation Hospital ("The Sanatorium"), built in separate pavilions, and capable of accommodating 150 patients.

At the time of the Inspector's visit the wooden hospital was occupied by small-pox patients. In the event of such being the case at a time when cholera is prevalent a separate pavilion at the Urban Sanitary Authority's Sanatorium would, the Medical Officer of Health stated, be reserved for cholera purposes. The Sanatorium is fairly well situated for Port purposes.

In the event of a case of cholera occurring on a vessel at Goole, the patient would, by arrangement with the Goole Urban Sanitary Authority, be admitted into that Authority's Hospital. This is a brick building erected in 1872 and capable of accommodating some 20 patients. It is inclosed by a brick wall 7′ 6″ high but is surrounded by dwellings on three sides, the Workhouse Infirmary being about 80 yards distant only. This hospital is about 600 yards from the extended "Railway Dock" and can be approached without passing through much of the town of Goole.

15. *Disinfecting Apparatus :—*

For the disinfection of clothes there is a Ransom's Hot Air Chamber at the Wooden "Garrison" Hospital. There is also a Washington Lyon's apparatus at the Hull Urban Sanatorium. For the purpose of disinfecting goods from shipping a special apparatus was in course of erection at the docks (by private enterprise) at the time of the Inspector's visit. This consists of an iron cylinder 7 feet in diameter and 26 feet in length with a door at each end. Both the cylinder and the doors are jacketed. Throughout the whole length of the apparatus there is a 1½ inch perforated pipe for use as a stream jet. Before introducing bales of rags for disinfection, steel "spikes" (perforated tubes) are passed into them to favour the admission of steam. When the apparatus is in use the steam in the jacket is kept constantly at a pressure of 100 lbs. The goods are then introduced and the doors having been closed the air is exhausted from the body of the apparatus by an air pump. Steam is then admitted and kept at a pressure of 50 lbs. for 10 minutes. It is then blown off. This operation is repeated three times, which takes an hour and a half, and the goods are then believed to be thoroughly disinfected. In experiments made it has been found that at the end of this process the temperature in the centre of bales of rags weighing 5½ cwt. was 250° F. The apparatus will hold at one time 12 bales (three tons) of rags.

16. *Mortuary :—*

There is a small mortuary at the wooden hospital with a lead-covered table for one body. Mortuary also at the Goole Hospital, but adjoining boundary wall.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

Regulations adopted May 13th, 1890 and approved by the Local Government Board June 6th, 1890.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Adopted February 17th, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The entrances to the respective docks at Hull, and Hull Roads between the entrances to the Humber and Alexandra Docks. Hull Roads within the limits above defined is the boarding station for all vessels arriving from "any port infected or suspected of being infected with cholera."

All vessels (from foreign) bound for Goole are also boarded by the Customs Officers at Hull and detained if necessary. If not detained they are again boarded at the entrance to the dock at Goole. The boarding of vessels from foreign is carried on by night as by day both at Hull and Goole. Coasters are boarded at their moorings at each port as time allows.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Infected or suspected vessels would be detained at the boarding station for a period of 12 hours if necessary, pending the arrival of the Port Medical Officer of Health.

The pilots are licensed by the Hull Trinity House and are under the control of a local Board of Commissioners (Humber Pilotage Act, 1832).

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

Customs officials would send a messenger on shore and telephone to the Port Medical Officer of Health. The "National" telephone is laid on to the houses of both the Port Medical Officer of Health and the Port Inspector of Nuisances.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

In ordinary times an open boat would be hired if necessary, but the Customs and also Messrs. Wilson & Co. have from time to time put their launches at the Port Medical Officer of Health's disposal. During the autumn of 1892 the Port Sanitary Authority hired a steam launch for between two and three months at a cost of 130*l.*

e. Mooring Station :—

The mooring station is in White Booth Roads but is apparently not satisfactory, and the Port Sanitary Authority proposed to adopt as a mooring station a spot selected for the purpose by the Collector of Customs between "No. 6 sunk spit buoy and No. 7 black." As regards White Booth Roads the Pilots objected to moor vessels there owing to the shallowness of the water, the absence of sufficient room to swing, and the fact that the

spot in question encroaches upon the channel and might endanger other vessels coming up the Humber. The proposed new mooring station between Nos. 6 and 7 buoys appears to be free from all these objections. It is, like White Booth Roads, in the Grimsby Customs Port, and in waters under the jurisdiction of the Patrington Rural Sanitary Authority. With respect to this proposed mooring station the Inspector consulted the Collectors of Customs both of Hull and Grimsby. The former expressed himself as satisfied that no proper mooring station could be found in the Customs Port of Hull. The latter stated that he saw no objection to the use of the spot in question as a mooring station for the Hull and Goole Port Sanitary Authority. The Patrington Rural Sanitary Authority had not been consulted by the Hull and Goole Port Sanitary Authority as regards this mooring station.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health inspects all "infected" vessels. During danger of cholera in the autumn of 1892 all vessels from foreign were inspected either by the Port Medical Officer of Health or Assistant Port Medical Officer of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health sees the ships' articles and musters and examines all hands on board.

h. Address Book:—

Special address book kept.

i. Special Isolation Provision for Cholera:—

Wooden hospital for 50 beds at Hull. Goole Urban Sanitary Authority's hospital at Goole.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

Such persons would be isolated in one of the hospitals to which the Authority has the right to send patients.

Means provided for Transfer of Infected Persons from Ship to Hospital:—

In ordinary times an open boat would be hired or the patient landed overside at the entrance to the dock. During the autumn of 1892 a steam launch was hired. For land purposes the Port Sanitary Authority has the use of a hand ambulance and also a horse ambulance.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) Ransom's Stove at the wooden hospital. Washington Lyon's apparatus at the sanatorium. But cholera infected articles would probably be burnt.

(*b.*) Sulphurous acid gas. Corrosive sublimate solution (1 in 1000) for woodwork. Carbolic acid solution for iron work.

(*c.*) Special apparatus in course of erection at date of inspection. (See 15 above.)

n. Arrangements made as to the disposal of the Dead:—

Persons who had died of cholera would be buried with due precautions in the cemetery belonging to the Corporation.

o. Action as to Water Supply of Vessels from Infected Ports :—

Drinking water ordered to be pumped out in the river. Tanks cleansed and lime washed and fresh water supplied by the Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilge water and ballast water ordered to be pumped out in the river, bilges cleansed with carbolic acid solution.

Final Conference with the Hull and Goole Port Sanitary Authority was held on May 12th, 1893, when the only formal recommendations made had regard to the steps to be taken beforehand to secure, in the event of British Ports becoming infected by cholera, the medical inspection, by night as well as by day, of all vessels coming coastwise to the port.

Certain informal advice was, however, given to the Port Sanitary Authority with respect to several matters, as follows :—It was pointed out that inasmuch as the "Garrison" Hospital at Hull, which ordinarily does duty for port purposes, was, at the time of the conference, being used for small-pox purposes, there must be some uncertainty as to whether it would be available for cholera patients should need arise. The provision of additional isolation accommodation for cholera cases at Hull was therefore advised, and a hulk was suggested. Similarly, in view of the fact that the position of the isolation hospital at Goole was found to be not altogether satisfactory for port cholera purposes, the provision of a floating hospital for Goole, or a hospital near the river, was also advised. The Port Sanitary Authority was further recommended to renew the arrangement made in the autumn of 1892, by which a medical man residing at Goole was temporarily appointed Deputy Port Medical Officer of Health to act in emergency pending the arrival of the Port Medical Officer of Health from Hull. Lastly it was pointed out that the inspection of shipping would be much facilitated by the provision, by the Port Sanitary Authority, of a steam launch for the use of their officers.

Action taken by the Port Sanitary Authority since Inspection.

All the above recommendations have been carried out by the Port Sanitary Authority. Coasting vessels were systematically inspected during the autumn of 1893; a hulk and a fly-boat were purchased and fitted up as cholera hospitals for Hull and Goole respectively; a Deputy Port Medical Officer of Health for Goole was appointed; and a steam launch was purchased. [Letters, from the Port Sanitary Authority, dated July 19th, and September 15th, 1893.]

The hulk was fitted up as a hospital for 20 patients, and provided with a Washington Lyon's disinfecting apparatus. The fly-boat was fitted as a hospital for six patients. [Annual Report of the Port Medical Officer of Health for 1893.]

It should be added that the proposed new mooring station between Nos. 6 and 7 buoys has been sanctioned by the Board's Order of July 19th, 1893.

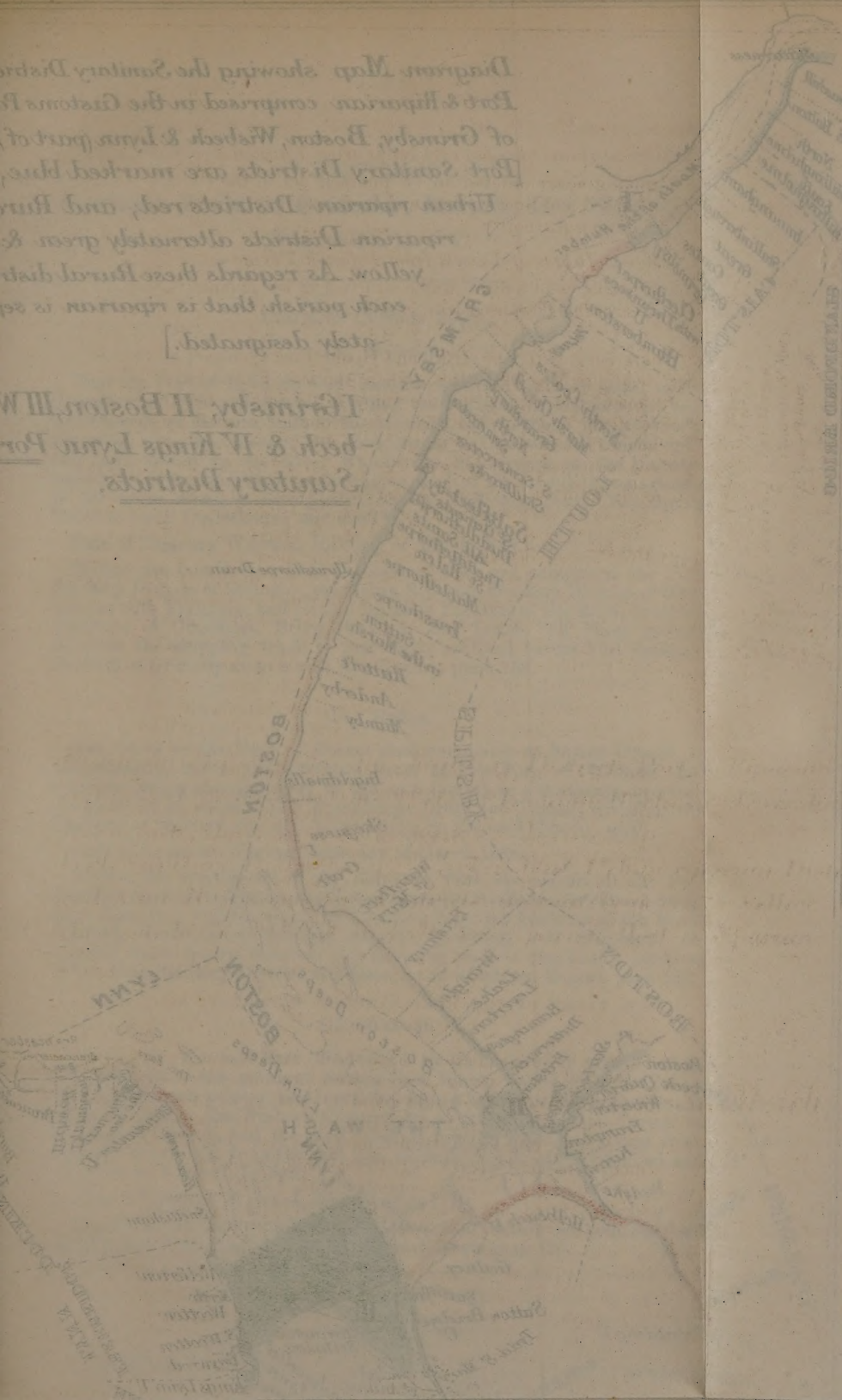

Diagram Map showing the Sanitary Districts, Port & Riparian comprised in the Customs Ports of Grimsby, Boston, Wisbech & Lynn (part of)
[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural districts each parish that is riparian is separately designated.]
I Grimsby, II Boston, III Wisbech & IV Kings Lynn Port Sanitary Districts.
Skitterness
Grasbill
E. Halton
North Killingholme
South Killingholme
Immingham
Stallingborough
Great Coates
Great Grimsby U
Cleethorpes with Thrunscoe U
Humberston
Mouth of the Humber
GRIMSBY
LOUTH
GLANDFORD BRIGG
CLEETHORPES
Itney
North Coates
Marsh Chapel
Grainthorpe
North Somercotes
S. Somercotes
Skidbrooke
Saltfleetby St Peters
St Clements
Theddlethorpe All Saints
Theddlethorpe St Helen
Mablethorpe
Trusthorpe
Thrusthorpe Drain
Sutton in the Marsh
Huttoft
Anderby
Mumby
SPILSBY
BOSTON
Ingoldmells
Skegness U
Croft
Wainfleet St Mary
Friskney
Wrangle
Leake
Leverton
Benington
Butterwick
Frieston
Boston Deeps
Boston Skirbeck Quarter
Skirbeck
Skirbeck Quarter
Wyberton
Erampton
Kirton
Fosdyke
Surfleet
Holbeach U
Pinchbeck
Spalding U
SPALDING
SPALDING
HOLBEACH
Gedney
Sutton St Edmund
Sutton St James
Sutton Bridge U
Terrington St Clement
Terrington St John
Tilid St Mary
Walpole St Andrew
Walpole St Peter
Walpole Central
Walpole Highland
Walpole West
Walton
Leverington
Wisbech
Wisbech U
WISBECH
THE WASH
LYNN Lynn Deeps
BOSTON
LYNN
Wolferton
North Wootton
S. Wootton
Ingoldisthorpe
Castle Rising
Kings Lynn U
Clenchwarton
North Lynn
West Lynn
KINGS LYNN
WISBECH
FEDERIDGE
LYNNA
Snettisham
Heacham
Hunstanton U
The Boys
Sandringham
Wolferton
Wolferton Park
Appleton
Anmer
Fring
Sedgeford
Docking
Docking Deepdale
Burnham
Burnham Norton
Brancaster
Brancaster Road
Wyman & Sons, Lte Lith

SECTION IV.

Customs Ports of Grimsby, Boston, and Wisbech.

Illustrated in Map IV.

Limits of Customs Ports.

(13.) *Grimsby.*

That the Port of Grimsby shall commence at the drain or canal called Trussthorpe Drain and Tunnel, dividing the Parishes of Mablethorpe and Trussthorpe on the east coast of Lincolnshire, and continue, in a northerly direction, along the coast of the said County to Cleeness and Cleethorpe; and from thence up the River Humber to Skitterness, on the Lincolnshire bank of the said River, including so much of the said River as extends to low-water mark, at spring tides, on the Yorkshire coast, from Spurn Point to Paull Lighthouse; and shall*

Date of Treasury Warrant, 10th day of March 1848.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Grimsby, the Urban Riparian Sanitary District of Cleethorpes with Thrunsco, and certain Riparian Parishes of the Rural Sanitary Districts of Glandford Brigg, Caistor, and Louth. Of these several districts the shipping trade is practically confined to the Port Sanitary District of Grimsby as to which, see Report, page 158.

(14.) *Boston.*

The limits of the Port of Boston shall commence at Sutton Corner, in Lincolnshire, being the northern limit of the Port of Wisbech, and continue along the east coast of the said County in a northerly direction to the drain or canal called Trussthorpe Drain and Tunnel, dividing the Parishes of Mablethorpe and Trussthorpe, in the said County, and*

Date of Treasury Warrant, 10th day of March 1848.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Boston, the Urban Riparian Sanitary Districts of Skegness, Spalding, and Holbeach, and certain Riparian Parishes of the Rural Sanitary Districts of Spilsby, Boston, Spalding, and Holbeach. As regards these several districts the shipping trade is practically confined to the Port Sanitary District of Boston, as to which see Report, page 166.

(15.) *Wisbech.*

. . . . . the said Port (Wisbech) is by Us declared to extend and be accounted from the point of Sutton Salt Marsh, called Sutton Corner, that is, nearest a point of that marsh belonging to Sutton where the Sutton Leam falls into the Wisbech Channel by a line from Sutton Corner to Terrington Church, and the said Church bearing south-south-east from Sutton Corner, and from the said line or limits up Wisbech Channel and the river to Wisbech Bridge.

Date of Treasury Warrant, 20th October 1735.

The whole of this Customs Port is comprised within the boundaries of the Wisbech Port Sanitary District. See Report, page 173.

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* See footnote, page 78, *ante*.

Grimsby Port Sanitary District.

[Grimsby Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 17th, 1893.

Date of Order *permanently* constituting Port Sanitary District: September 24th, 1887, as amended by Order of September 21st, 1891.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "The Mayor, Aldermen, and "Burgesses of the Borough of Great Grimsby acting by the "Council."

It exercises port functions in waters abutting upon the Urban Sanitary District of Grimsby only.

2. *Limits of Jurisdiction:—*

"So much of the said Port [Grimsby] as abuts upon the Borough of Grimsby, as extended by the Grimsby Extension and Improvement Act, 1889, together with the waters,"* &c.

The limits of jurisdiction are apparently satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

The Grimsby Urban Sanitary District.

4. *Apportionment of Expenses:*

Wholly borne by the Grimsby Urban Sanitary Authority.

General Character and Efficiency of Administration:—

During danger of cholera in 1892, this Port Sanitary Authority displayed considerable activity, and made arrangements for meeting the danger, which, though of a temporary character, were very creditable—especially in view of the short time at their disposal. The need for such extensive temporary arrangements, however, was itself sufficient evidence that the Port Sanitary District was not, as it should have been, already provided with a suitable permanent equipment. At the time of inspection, in 1893, it was still without suitable permanent equipment.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

Foreign.—*Hamburg* (six boats a week); *Antwerp*, *Rotterdam*, and *Dieppe* (each two boats a week); *Gottenborg*, *Malmö*, *Esbjerg* (each one boat a week).

Also the Baltic, Norway, various French ports, the Mediterranean, Black Sea, and America.

Coastwise.—*Hull* (daily); *London* (twice a week); *Channel Ports*, and *Aberdeen*. Very few ships from the West Coast of England or from Ireland.

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* See footnote, page 89, *ante*.

7. *Character of Trade :—*

FOREIGN.—*Imports :* Rags (over 100 tons a week). Timber; ice, a considerable quantity, from Norway; butter (from Hamburg); eggs; fruit; furniture (stuffed, chiefly second-hand from Hamburg); compressed straw (from Hamburg); cotton waste (from France); yeast, general merchandise. Extensive passenger trade with Hamburg, Antwerp, Rotterdam, Gottenborg, Malmö and Esbjerg (22,800 passengers exclusive of immigrants and transmigrants last year). Extensive immigrant and transmigrant traffic (about 20,000 a year), chiefly Russian Jews en route for America viâ Liverpool and Glasgow, though some remain in England. Also German Jews and some Swedish and Norwegian transmigrants.

Exports : Chiefly coal, machinery, cotton, &c.

COASTWISE.—*Imports :* General merchandise, granite from Aberdeen.

Exports : Chiefly coal.

8. *Amount of Shipping Inwards during three years*, 1890–91–92.

Class of Vessels.	1890.		1891.		1992.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	1,130	547,334	1,159	566,327	1,267	617,470
Foreign { Sailing	463	123,314	392	107,943	431	122,803
Foreign { Fishing*	—	—	—	—	—	—
Total Foreign	1,593	670,648	1,551	674,270	1,698	740,273
Coastwise { Steamers	147	80,731	140	66,834	147	68,302
Coastwise { Sailing	161	23,502	152	20,271	159	29,437
Coastwise { Fishing*	—	—	—	—	—	—
Total Coastwise	308	104,233	292	87,105	306	97,739

* The fishing vessels coming into Grimsby are engaged mostly in deep-sea fishing in the North Sea, and do not, as a rule, visit foreign ports. The general custom is to leave port provisioned for a week or 10 days; and then to return to market with the catchings. Sometimes a vessel will run into Bremen or a Dutch port to sell fish or for other purposes,—but it is the exception.

The following is the estimated number and tonnage of fishing vessels entering Grimsby during the three years 1890, 1891, and 1892.

Year.	Number of Vessels.	Tonnage.
1890	18,000	1,080,000
1891	19,409	1,164,540
1892	19,503	1,170,180

The subjoined statement as to the operations of the Grimsby Fishing Fleet, supplied to the Inspector for the information of the Local Government Board by Councillor Charles Jeffs of Grimsby, is of considerable interest.

"The fishing fleet of Grimsby consists of about 130 steam fishing "vessels and about 650 sailing smacks. The average length of the

" steamers' voyages is about 11 days and of the sailing vessels about 14 " days' with the exception in the latter case of a fleet of 100 smacks, the " property of the Grimsby Ice Company, which fish together in what " is commonly called a fleet, and remain at sea for periods ranging from " seven to nine weeks. This fleet is attended by five large steam carriers, " which convey the fish caught by the smacks in ice to London. The " operations of the Grimsby Ice Company's fleet referred to are mostly " carried on in the neighbourhood of the tail end of the Dogger Bank, but " are not limited to this point. Their movements may be described as " ranging round a point situate from 60 to 90 miles from the German " coast, consequently the fleet is often visited by the Dutch and German " 'Coopers.' The said "Coopers" are engaged in the sale of spirits, " tobacco, &c., and legislation is now being enacted for the purpose of " suppressing them. In my judgment they are a special source of " danger in the event of epidemic disease occurring in the ports " from which they hail. The area covered by our fishing operations is " very extensive. From May until October a portion of the fleet, " both steam and sail, go as far as the shores of Iceland in pursuit of " their calling, frequently visiting the harbours and fjords for bait and " shelter. From October to May, a portion of the steamers fish about " the Faroe Islands, where, owing to the severity of the weather, they " often spend weeks together in the fjords and natural harbours. The " sailing vessels go to Shetland and the Orkney Islands, frequently " calling there and at the Scotch ports. The trawling fleet is spread " from latitude 58 to about latitude 53, and covers the whole range of " the North Sea from the Naze of Norway to the British coast, indeed " several portions have of recent years been pushed up the Sleeve as " far as the extreme northern part of Jutland on the one hand and, in " some exceptional cases, as far as the fishing grounds in the Bay of " Biscay on the other. There are occasional times when our vessels " visit the Dutch and German ports, but not very often. In addition " to our own sailing fleet, we have a large number of strange vessels " making periodical visits to Grimsby at stated times, Dutch herring " vessels, Scotch and Lowestoft herring boats, and last year (1892), while " the cholera was at its height, we had a considerable number of German " steamers running in and out of Grimsby without restriction, and in " many cases without even inspection. From the month of July and " until October, we have 200 sail of luggers engaged in the herring " fishing and referred to in the preceding paragraph. These are " chiefly Scotch and Lowestoft vessels, and their practice is to follow " the herrings south from Scotland to Shields, Scarboro', Grimsby, and " eventually Lowestoft. Their stay in Grimsby is generally about from 8 " to 10 weeks varying according to the nature of the season. The " number of foreign fishing vessels visiting Grimsby has shown a " tendency to decrease rather than increase of recent years, the excep- " tion being in the case of the Hamburg steamers during 1892."

9. *Inland Water Communication :—*

This is the same for the Grimsby Port Sanitary District as for Hull and Goole, viz : the Aire and Calder and Trent Navigations and the River Ouse. According to the principal Customs Officer, there is a large number of small craft engaged in trading between Grimsby and places up the Humber (inland) making, say, from two to three thousand voyages a year. They are not included in the Navigation Returns sent to the Board of Trade, nor are they subject to Coasting Regulations,

but a record of them is kept. Should cholera get a footing in Grimsby, they might, it is thought, become a fertile medium of spreading the infection.

10. *Lines of Railway conveying Goods from Port:—*

Manchester Sheffield and Lincolnshire Railway for transmigrants and most goods. Also the Great Northern Railway.

11. *Medical Officer of Health:* Thomas Newby.

Qualifications:—M.D. (St. And.), M.R.C.S. Eng., and L.S.A. Salary 25*l.* a year, with repayment.

Dr. Newby also acts as Medical Officer of Health to the Grimsby and Cleethorpe Urban Sanitary Districts.

During danger of cholera in the autumn of 1892, Mr. W. B. Simpson, M.B., C.M. Aberd., D.P.H., was appointed Assistant Port Medical Officer of Health, at a salary of seven guineas per week. His services were, at the time of inspection, still retained by the Town Council in connexion with small-pox in the Urban District.

Character and efficiency of work done by Medical Officers of Health:—Good.

12. *Inspector of Nuisances:* Charles Dobson.

Qualifications:—No Sanitary Certificate. Ex. Trinity Pilot. Salary 100*l.* a year, without repayment.

Mr. Dobson is also Fish Inspector and Canal Boats Inspector to Urban Sanitary District (Grimsby).

Character and efficiency of work done by Inspector of Nuisances:—

The Port Inspector of Nuisances apparently discharges his duties in a satisfactory manner, but the time he is obliged to devote to the work of inspecting fish and canal boats tends to interfere with the discharge of his port sanitary duties.

13. *Nuisances:—*

Ship inspection well carried out in view of the circumstance mentioned above (12).

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	478	53	53
		Sailing	285		
		Fishing	8		
		Total Foreign	771		
	Coastwise.	Steamers	181		
		Sailing	212		
		Fishing	136		
		Total Coastwise	529		

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders Issued.
1891	Foreign	Steamers	455	45	45
		Sailing	200		
		Fishing	6		
		Total Foreign	661		
	Coastwise.	Steamers	166		
		Sailing	216		
		Fishing	292		
		Total Coastwise	674		
1892	Foreign	Steamers	520	62	62
		Sailing	279		
		Fishing	28		
		Total Foreign	827		
	Coastwise.	Steamers	174		
		Sailing	221		
		Fishing	453		
		Total Coastwise	848*		

* It will be observed that this Return, which was furnished by the Inspector of Nuisances, is not at first sight reconcileable with that of the Customs (*see* 8 above). Apparently, however, it includes repeated visits to vessels during their stay in port.

14. *Isolation Hospital:*—

During the autumn of 1892 the Port Sanitary Authority, having no suitable isolation accommodation for cholera purposes, entered into an arrangement with the Manchester, Sheffield, and Lincolnshire Railway Company by which for the payment of 10*l.* 10*s.* 0*d.* a week they obtained the use of the iron steamship "Bradford" for hospital purposes, and the use of a steam launch for conveyance of their officers and patients. The hold of the "Bradford" was fitted up as a large ward, measuring 19 yards × 7 yards × 13 feet (height). It was provided with 10 beds, bedding, and other necessaries, heated by a stove, lighted by oil lamps, and ventilated through the hatches—windsails being provided for wet weather. The forecastle was fitted as an extra ward measuring 21′ × 18′ × 6′·6″, and similarly heated and ventilated. Water was supplied from the town. The vessel was moored in the Humber. When the continental epidemic abated, the "Bradford" was brought into dock, where she still remained at the time of the Inspector's visit. The Port Sanitary Authority, however, retained the use of her at a weekly rent of 2*l.* 2*s.* 0*d.*, and she was ready to go out to her moorings at any time.

15. *Disinfecting Apparatus:*—

The Urban Sanitary Authority possesses a Washington Lyon's apparatus at their hospital, but this would not be suitable for the disinfection of goods from shipping.

16. *Mortuary :—*

No mortuary available for cholera purposes.

17. *Regulations under Section* 125, *Public Health Act*, 1875.

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

The Act has not been adopted by the Port Sanitary Authority, but notification of cholera, small-pox, scarlet fever, croup, diphtheria, enteric, typhus, continued and puerperal fevers is compulsory in the Urban Sanitary District under a local Act.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

In ordinary times vessels are boarded in the Basin at the entrance to the Royal Dock. During danger of cholera in the autumn of 1892 they were boarded in the Roads, the Customs providing an officer to accompany the Port Sanitary Authority's steamer. Boarding carried out at night as in the day. Coasters not systematically boarded, but rummaged at their moorings, as time allows.

Places of debarkation, 1. The Royal Dock ; 2. The Alexandra Dock ; 3. The Fish Dock.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

"Infected" or "suspected vessels" would be detained outside the Basin until the arrival of the Port Medical Officer of Health.

Pilots are licensed and controlled by the Hull Trinity House. The Commodore has issued to the pilots printed instructions of the Port Sanitary Authority requesting them to bring up all vessels from "infected ports" in the Humber and await the arrival of the Port Medical Officer of Health.

c. Arrangements for Communication between Officials Detaining Vessels and Medical Officer of Health :—

Special messenger. But a telephone between the docks and an office opposite the Port Medical Officer of Health's house is available during the daytime.

d. Means Provided, or facilities given, for Conveyance of Medical Officer of Health to Ships :—

In ordinary times open boats are relied upon. In the autumn of 1892 a steam launch was, however, hired, and this will be done again as soon as occasion arises.

e. Mooring Station :—

Mooring station fixed in the Humber off Grimsby near the Middle Light. This is in the Grimsby Customs Port, but in waters under the jurisdiction of the Patrington Rural Riparian Sanitary Authority. This Authority was not, apparently, consulted as to the selection of the mooring station, but the mooring station had been approved by the Collector of Customs of Grimsby.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health inspects all infected vessels. During special danger of cholera he inspects all vessels from infected ports.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

All persons counted and examined.

h. Address Book:—

No special address book kept.

i. Special Isolation Provision for Cholera:—

The steamship "Bradford."

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

Such persons would be isolated on the ship "Bradford" or on the vessel upon which they arrived.

l. Means Provided for transfer of infected Persons from Ship to Hospital:—

At date of inspection no means provided. In the autumn of 1892 a steam launch was hired by the Port Sanitary Authority and employed for this purpose. A similar arrangement would be made in future if necessary.

m. Arrangements made for disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods:—*

(*a.*) There is a Washington Lyon's apparatus at the Urban Sanitary Authority's hospital, but cholera infected articles would be burnt.

(*b.*) Sulphur fumigation, carbolic acid solution for ironwork, and corrosive sublimate solution for woodwork.

(*c.*) None.

n. Arrangements made as to the disposal of the Dead:—

The bodies of persons who had died of cholera would be buried in the Corporation Cemetery.

o. Action as to Water Supply of Vessels from infected Ports:—

Drinking water ordered to be pumped out before entering the dock, but prior to the Inspector's visit fresh water had not been supplied by the Port Sanitary Authority.

p. Action as to Bilges of Vessels from infected Ports:—

Bilge water ordered to be pumped out before entering dock. Ballast water as far as possible similarly dealt with.

Final Conference with the Grimsby Port Sanitary Authority was held on May 16th, 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of a permanent hospital provided with proper ambulance, mortuary, and disinfecting apparatus.
2. The adoption of the Infectious Disease (Notification) Act, 1889.
3. The appointment of a Port Inspector of Nuisances to devote his whole time to the duties of his office.
4. The arrangements to be made for the supply of drinking water to vessels entering the Port from "infected ports."

5. The steps to be taken beforehand to secure, in the event of British Ports becoming infected by cholera, the medical inspection, by night as well as by day, of all vessels coming coastwise, including any fishing boats which leave the waters of the Port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

The hospital ship "Bradford" was towed to her moorings in the Humber on August 3rd, 1893, where she remained until October 31st of that year, when she was brought back into dock. Dr. Simpson was appointed medical superintendent of the "Bradford," having under his charge two nurses and a crew of seven persons.

The systematic inspection of all vessels arriving from foreign ports was commenced on August 4th, 1893, and continued until the beginning of December of that year. Inspection of all vessels from home ports was commenced on October 3rd, 1893, and maintained until November 23rd, a steam launch being provided for the purpose.

During the time that the Board's special Cholera Regulations were in force in the Urban District one of the medical visitors was appointed to inspect the ships lying in the docks. [Annual Report of the Port Medical Officer of Health for 1893.]

The systematic inspection of all vessels arriving from foreign ports was commenced on July 11th, 1894, and continued until November 20th of that year.

In all cases of arrivals from "infected ports" bilges were ordered to be well pumped out, and all drinking water taken in at such ports thrown away, and a fresh supply obtained. [Annual Report of the Port Medical Officer of Health for 1894.]

No information as to any action upon Recommendations 1 to 3 above. [September 1895.]

Boston Port Sanitary District.

[Boston Customs Port (part of).]

Inspector: Dr. S. M. Copeman. *Date of Inspection:* March 10th, 1893.

Date of Order *permanently* constituting Port Sanitary District: November 21st, 1887.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is a Joint Board termed "The "Boston Port Sanitary Authority," and consists of seven members composed of representatives of the Urban and of the Rural Sanitary Authorities of Boston, as follows:—

Urban Sanitary Authority for the Borough of Boston, five members.

Rural Sanitary Authority of Boston, two members.

This Authority exercises Port functions in waters abutting upon the sanitary districts named above.

2. *Limits of Jurisdiction :—*

"So much of the Customs Port of Boston as is comprised within the boundaries formed by the following straight lines, that is to say,—a line drawn from the tower of Boston Church to the High Horn Buoy; a line drawn from the said High Horn Buoy to the Gat Beacon; and a line drawn from the said Gat Beacon to the seaward extremity of the common boundary of the Parishes of Wyberton and Frampton, together with the waters," &c.*

These limits do not appear to be altogether satisfactory since as at present defined the central third (about) of the channel is outside the limits of the Port.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Boston Urban Sanitary District.

Boston Rural Sanitary District. Parishes:—Skirbeck, Skirbeck Quarter, Fishtoft, and Frieston.

4. *Apportionment of Expenses :—*

The constituent Riparian Authorities contribute towards the expenses of the Port Sanitary Authority in the following proportions:—

Boston Urban Sanitary Authority in proportion to the rateable value of the District.

Boston Rural Sanitary Authority in proportion to the rateable value of the contributory places of Skirbeck and Skirbeck Quarter.

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* See footnote, p. 89, *ante*.

5. *General Character and Efficiency of Administration :—*

Fairly good. The Port Sanitary Authority support their Medical Officer of Health (who is an able and energetic officer) on all points tending to the improvement of the Port defences; although they are adverse to any greater expenditure of public funds than is absolutely necessary.

6. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*) :—

Foreign.—*Hamburg* (two vessels weekly), *Ghent*, *Antwerp*, Ports in the Baltic, Black Sea, Egypt, and South America.

Coastwise.—London, Hull, Carnarvon, and River Tyne.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports :—

General goods from Hamburg.

Timber, ice, linseed, cotton seed, linseed cake, maize, iron-ore, granite, barley, shoddy. No rags recently.

No passengers, immigrants, or transmigrants.

Exports :—

Coals and general goods.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	137	63,461	124	58,150	138	63,543
	Sailing	70	17,575	75	18,073	90	25,260
	Fishing	—	—	—	—	—	—
Total Foreign		207	81,036	199	76,223	228	88,803
Coastwise	Steamers	145	11,353	162	13,842	150	12,322
	Sailing	288	14,928	235	11,802	212	11,611
	Fishing	No official record kept.					
Total Coastwise		433	26,281	397	25,644	362	23,933

No fishing boats of foreign nationality or from foreign ports visit Boston. There is a fleet of 29 steam trawlers belonging to the Port employed in fishing in the North Sea fishing grounds, returning to Boston about every ten days. None of these boats, however, enter foreign territorial waters. There are a few long-shore fishing boats at this Port which are employed in the Wash and which never go beyond its limits.

9. *Inland Water Communication :—*

By the River Witham as far as Lincoln.

The Port Sanitary Authority do not exercise any supervision over canal traffic; but the Boston Urban Sanitary is a Registration Authority under the Canal Boats Acts.

10. *Lines of Railway conveying Goods from Port :—*

Great Northern Railway.

11. *Medical Officer of Health:* Walter Clegg.

Qualifications:—M.R.C.S., L.S.A. Salary, 10*l.* per annum; with repayment.

Also holds the appointments of Medical Officer of Health for the Boston Urban and Boston Rural Sanitary Districts.

Character and efficiency of work done by Medical Officer of Health:—The Medical Officer of Health is an active and energetic officer. He is fully acquainted with his duties as defined by the Local Government Board and carries them out to the best of his ability.

12. *Inspector of Nuisances:* John Stevenson.

No sanitary certificate. Salary, 10*l.* per annum; with repayment.

This officer also holds the appointments of Inspector of Nuisances for the Boston Urban and Boston Rural Sanitary Districts and that of School Attendance Officer.

Character and efficiency of work done by Inspector of Nuisances:—He appears to carry out his duties fairly well as far as he understands them. He is unfortunately so completely deaf that he can only hear with the aid of an ear trumpet and then even with difficulty.

An Assistant Inspector of Nuisances was appointed during the prevalence of cholera at Hamburg in the autumn of 1892, who lived on board the pilot vessel at the entrance to the harbour, and who inspected all vessels from foreign on their arrival. This special appointment was discontinued at the end of 1892, but on the suggestion of the Inspector that officer was re-appointed at the date of inspection (March 1893).

13. *Nuisances:*—

From the following table it will be observed that no orders for the abatement of nuisances on board vessels had been issued during the three years of 1890–92. The Port Inspector of Nuisances kept no record of the defects found, but he stated that they were, as a rule, of a minor character, and that they had been in each instance pointed out to the master of the vessel, whose promise to have them abated had been accepted.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	30	—	—
		Sailing	64	—	—
		Fishing	—	—	—
		Total Foreign	94	—	—
	Coastwise	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders Issued.
1891	Foreign	Steamers	106	—	—
		Sailing	67	—	—
		Fishing	—	—	—
		Total Foreign	173	—	—
	Coastwise	Steamers	9	—	—
		Sailing	13	—	—
		Fishing	—	—	—
		Total Coastwise	22	—	—
1892	Foreign	Steamers	64	—	—
		Sailing	84	—	—
		Fishing	—	—	—
		Total Foreign	148	—	—
	Coastwise	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—

14. *Isolation Hospital :—*

A farm-house, situate about one-and-a-quarter miles from Boston, and about a quarter of a mile from the docks and landing stage was acquired by the Port Sanitary Authority in December 1881, as an Isolation Hospital. It contains four rooms used for wards, besides offices. At the time of inspection a separate block, with accommodation for three beds, was in course of erection. There is room for further extension on the site, which is the property of the Boston Urban Sanitary Authority. A caretaker and his wife live on the premises. The latter acts as nurse, but has had no special training.

An ambulance and stretcher are kept at the Isolation Hospital. Rainwater is stored in an underground tank and pumped up for use, but the town supply could be taken in tanks if necessary. Earth closets are in use; slop water drains into a cesspool.

15. *Disinfecting Apparatus :—*

The Port Sanitary Authority relies upon sulphur fumigation for disinfecting purposes. Infected bedding, clothing, and linen are destroyed in any cases where the Medical Officer of Health considers it to be necessary, and compensation paid to the owners.

16. *Mortuary :—*

There is no Port mortuary.

There is a small mortuary at the cemetery about a mile from the town, one and a half miles from the docks, and two miles from the Isolation Hospital.

17. *Regulations under Section* 125 *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted by the Port Sanitary Authority.

[The Act has been adopted by the Boston Urban Sanitary Authority.]

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The Customs Boarding Station is at Hobhole, about three miles from the Port. No Customs Officer is stationed at the boarding station, but the Customs duties are carried out by the Coastguard, who board there and place a man on board the vessel. This man remains on board until the dock is reached.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.

The Customs Authorities have hitherto taken no action with regard to vessels prior to their arrival at the dock. Licensed pilots are stationed on a vessel moored at Clayhole, at the entrance to the harbour ; they have received orders from the Harbour Commissioners to detain vessels with infectious diseases on board. The Port Sanitary Authority's Assistant Inspector of Nuisances lives on the pilot vessel.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

Upon the detention of a vessel the Port Inspector of Nuisances, or the pilot, signals by means of a flag from Clayhole to the Coastguard at Freiston, who have made arrangements to despatch a mounted messenger to the Medical Officer of Health at Boston.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

Either by launch or steam-tug, which is hired as required, at a cost of 4*l.* each time of use.

e. Mooring Station :—

The mooring station has been fixed at Clayhole, near the mouth of the harbour.

This situation is satisfactory, as it affords good anchorage in all winds and tides ; it is also out of the track of incoming vessels.

f. Inspection of Vessels ("infected" or from "infected port") :—

Vessels under either circumstances are duly inspected by the Medical Officer of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

All persons on board are mustered and inspected in either case.

h. Address Book :—

None kept.

i. Special Isolation Provision for Cholera :—

In the new ward at the Isolation Hospital.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None at the date of inspection.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

"Infected" persons would be transferred from ship to shore by means of a tug boat hired for the purpose, and conveyed thence to hospital in the ambulance.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a*) Would be burnt.
(*b*) By fumigation with sulphurous acid.
(*c*) None.

n. Arrangements made as to Disposal of the Dead :—

Bodies would be interred in Skirbeck Churchyard, distant about a quarter of a mile from the Port Isolation Hospital.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Assistant Port Inspector of Nuisances had been instructed to see that in the case of vessels having filled their tanks at "infected ports," the water is emptied into the sea before entering the harbour. The town water supply is laid on to the dock.

p. Action as to Bilges of Vessels from Infected Ports :—

No action as to bilges had been taken up to the time of inspection, but the Port Medical Officer of Health undertook that bilges of vessels from "infected ports" should be pumped out in future and disinfected.

Final Conference with the Boston Port Sanitary Authority was held on April 12th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of such assistance to the Port Inspector of Nuisances as would ensure regular and thorough supervision of vessels entering the Port.
2. The provision of such assistance to the Medical Officer of Health at Freiston Shore as would ensure the medical inspection of "infected" or "suspected vessels" with the least possible delay.
3. The provision of an efficient disinfecting apparatus.
4. The provision of a proper mortuary.
5. The steps, to be taken in advance, to secure, in the event of any English Ports becoming infected by cholera, the medical inspection of vessels entering the district from such ports.

Action taken by the Port Sanitary Authority since Inspection.

The appointment of Assistant Port Inspector of Nuisances continued during 1893 and 1894. [Annual Reports of Port Medical Officer for 1993 and 1894.]

"A large and convenient outbuilding on the hospital grounds was "cleared and set apart as a mortuary." [Annual Report of the Port Medical Officer of Health for 1893.]

The Authority have not, as yet, provided a disinfecting apparatus, but the Medical Officer of Health states his belief that such an apparatus will be procured "at an early opportunity." [Annual Report for 1893.]

Wisbech Port Sanitary District.

[Wisbech Customs Port (whole of).]

Inspector:—Dr. S. M. Copeman. *Date of Inspection:* February 23rd and 24th, 1893.

Date of Order *permanently* constituting Port Sanitary District: April 30th, 1879.

1. *Constitution of Port Sanitary Authority:*—

The Port Sanitary Authority is "The Mayor, Aldermen, and "Burgesses of the Borough of Wisbech, acting by the "Council." It exercises port functions in waters abutting upon the Urban Sanitary Districts of Wisbech, Sutton Bridge, and Walsoken, and the Rural Sanitary Districts of Wisbeach and Holbeach.

2. *Limits of Jurisdiction:*—

"The whole of the Port of Wisbech together with the waters"* of the said Port, the watersides of the districts of the Riparian Authorities and the waters of the Wisbech or Nene River abutting thereon and to the docks, basins, and creeks of and belonging to the said Port and River."

The boundaries of the Customs Port of Wisbech are defined by a Treasury Warrant, dated 20th October 1735, to extend "from the Point of Sutton Salt Marsh called Sutton Corner, that is nearest a point of that marsh belonging to Sutton, where the Sutton Leam falls into the Wisbech Channel by a line from Sutton Corner to Terrington Church, and the said Church bearing south-south-east from Sutton Corner, and from the said line or limits up Wisbech Channel and the River to Wisbech Bridge."

These limits may be considered satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:*—

Wisbech Urban Sanitary District (the whole).
Sutton Bridge Urban Sanitary District (the whole).
Walsoken Urban Sanitary District (the whole).
Wisbech Rural Sanitary District. Parishes:—Tydd St. Giles, Leverington, West Walton, Walpole St. Peter, Walpole St. Andrew, and Terrington St. Clement (part of).
Holbeach Rural Sanitary District. Parishes:—Tydd St. Mary, Central Wingland.

4. *Apportionment of Expenses:*—

The Riparian Authorities contribute as follows:—
Urban Sanitary Authority for the Borough of Wisbech in proportion to twice the rateable value of the Borough.
Urban Sanitary Authority for Sutton Bridge and for Walsoken in proportion to the rateable values of their districts.

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* See footnote, page 89, *ante*.

Rural Sanitary Authority of Wisbech and of Holbeach in proportion to the rateable value of such contributory places as abut on the Port.

5. *General Character and Efficiency of Administration :—*

Inefficient. The Authority puts on record in the minutes its belief in the desirability of maintaining a high state of efficiency in the sanitary administration but it does as little as possible. It has, for instance, passed a resolution that a disinfecting chamber shall be erected in the event of an outbreak of Cholera in the Borough.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign :—*Ports in Europe between White Sea and River Eider.* Germany, Pensacola and other ports in United States on the Atlantic ; Groningen, Antwerp, Dunkirk, and Ghent.

Coastwise :—*London, Northern coal ports,* Grimsby, Yarmouth, Lowestoft, Penzance, Port Madoc.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports. Wood goods, oats, phosphate rock and oil cakes. No rags are imported.

Exports. Coals.

No passenger traffic.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	28	15,947	48	27,119	48	23,751
	Sailing	76	20,785	55	41,876	56	15,784
	Fishing	—	—	—	—	—	—
Total Foreign		104	36,732	103	68,995	104	39,535
Coastwise	Steamers	112	8,444	124	9,269	135	10,311
	Sailing	45	2,452	54	3,044	48	2,634
	Fishing	—	—	—	—	—	—
Total Coastwise		157	10,896	178	12,313	183	12,945

9. *Inland Water Communication :—*

The River Nene from Wisbech to Peterborough, Wansford, Oundle, Wellingborough, Kettering, and Northampton. The River Nene is under the jurisdiction of the Port Sanitary Authority as high as Bevis Hall, two and a half miles above Wisbech town bridge.

The Wisbech Canal communicating by navigable rivers with Outwell, Upwell, March, Whittlesey, Peterborough, and places on the Nene up to Northampton, also with Downham Market, King's Lynn, Messel, St. Ives, Huntingdon and Bedford, Littleport, Ely and Cambridge.

10. *Lines of Railway conveying Goods from Port:—*

The Great Eastern Railway.
The Midland and Great Northern Railway.

11. *Medical Officer of Health:* Richard Henslowe Wellington.

Qualifications:—L.R.C.P., M.R.C.S. Salary 20*l.* per annum with repayment. He also acts as Medical Officer of Health for the Sutton Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health:—

The Medical Officer of Health is a comparatively young man. He appears to be energetic, intelligent, and well acquainted with his duties. He is not well supported, however, by his Authority.

12. *Inspector of Nuisances:* William Wood Nicholls.

Qualifications:—Has been a ship master and is well acquainted with shipping. Salary 5*l.* 5*s.* per annum with repayment. Mr. Nicholls also acts as Harbour Master and as Inspector of Canal Boats.

Character and efficiency of work done by Inspector of Nuisances:—

The Inspector of Nuisances informed the Inspector that he visited all ships coming up to Wisbech, and "if and when necessary "directed any work he may deem requisite to be done." He is however resident at Wisbech, and has never been to Sutton Bridge in his capacity of Port Inspector of Nuisances. His duties have mostly been carried out by the Harbour Master at Sutton Bridge without remuneration.

13. *Nuisances:—*

Inspection of Shipping in 1890–91–92.

		Number inspected.	Number reported defective.
1890	Foreign	50	4 or 5
	Coastwise	143	None.
1891	Foreign	47	3 or 4
	Coastwise	177	None.
1892	Foreign	57	7
	Coastwise	180	None.

"No written orders, but only verbal—always attended to."

14. *Isolation Hospital:—*

The Port Sanitary Authority erected (in 1883) a small hospital intended for infectious diseases generally. This is situate about a mile below Sutton Bridge. It stands within about 100 yards of the river from which it is accessible by a sloping landing stage. There are two wards of two beds each, one of which has an earth closet attached and a nurse's room. There is a separate caretaker's dwelling with kitchen and surgery. There is also a dead-house and wash-house. The

caretaker keeps pigs and chickens behind the outbuildings. Water is supplied from a surface well, and as all slops and household refuse are thrown on the ground in its neighbourhood there is possibility of the water becoming contaminated.

15. *Disinfecting Apparatus* :—

There is no provision for disinfection other than by sulphur fumigation.

16. *Mortuary* :—

A small mortuary has been provided at the Port Hospital at Sutton Bridge and at the Wisbech Borough Isolation Hospital.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

Formerly at Wisbech "Eye," but in 1891, a Custom's Order changed the locality to "the entrance to the River Nene "Outfall Cut opposite the Lighthouses."

Vessels are boarded here by Coastguard and not by Customs, who do not go on board until Sutton Bridge is reached, the Coastguard Officer travelling thus far on board, or all the way to Wisbech, if the vessel is proceeding so far.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

No vessel could get up the river without a Pilot; but in any case pilotage is compulsory. The Pilots meet vessels somewhere near the "Eye" and hail from a boat. If there was illness on board they would not take the vessel into harbour, and it would have to moor in the "Eye" until the Medical Officer of Health had boarded. If by chance, however, a vessel got in and was then found to be "infected," it could not be got out again until the next tide.

The Pilots are under the control of the Port Sanitary Authority.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Customs Authorities send word to the Medical Officer of Health by special messenger as soon as any vessel "coming foreign" is signalled.

d. Means provided, or facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Medical Officer of Health has permission from the Sanitary Authority to hire a pilot-boat whenever he may think it necessary.

e. Mooring Station :—

The Mooring Station is at Wisbech "Eye" about nine miles from Sutton Bridge and 16 miles from Wisbech. There is good anchorage here, out of the direct line of traffic.

It is apparently as good a situation as could be selected and has been approved by the Customs Authorities.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health promised to inspect all "foreign coming" vessels.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

In either case the whole crew would be summoned on deck and there examined by the Medical Officer of Health.

h. Address Book :—

Address book provided.

i. Special Isolation Provision for Cholera :—

Port Hospital, near Sutton Bridge.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

If no cases of any other disease happened to be in the hospital, the second ward would be available for a suspected case.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

None other than by hired boat. A small stretcher is kept at the Isolation Hospital.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

There is no provision other than fumigation with sulphur or destruction by burning.

n. Arrangements made as to the Disposal of the Dead :—

The Vicar of the Parish of Sutton St. Matthew (on the opposite side of the river to hospital) stated that he had no objection to interments being made, with proper precautions, in the churchyard.

o. Action as to Water supply of Vessels from Infected Ports :—

No action had been taken at the date of inspection, and although water could be brought from the mains of the Wisbech Water Company in tank boats, no arrangement had been made by the Port Sanitary Authority with the Water Company.

p. Action as to Bilges of Vessels from Infected Ports :—

No action had been taken at the date of inspection, but the Medical Officer of Health promised to have the matter attended to in future as far as possible.

Final Conference with the Wisbech Port Sanitary Authority was held on March 28th, 1893, when formal recommendations were made with regard to the following matters :—

(1.) The provision of such assistance to the Port Inspector of Nuisances at Sutton Bridge as would ensure regular and thorough supervision of vessels entering the Port.

(2.) The provision of proper means for the conveyance by water of their inspecting officers and of the sick.
(3.) The provision of an efficient disinfecting apparatus.
(4.) The provision of a proper mortuary.
(5.) The adoption of the Infectious Disease (Notification) Act, 1889.
(6.) The steps to be taken beforehand to secure, in the event of any English Ports becoming infected by cholera, the medical inspection of vessels entering the district from such Ports.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. An extra Inspector of Nuisances, resident at Sutton Bridge, appointed.
A "fumigation chamber," erected at the Port Hospital.
3. Various sanitary defects at the Port Hospital attended to.
[Letter from the Port Sanitary Authority dated May 5th, 1894.]

Diagram Map showing the Sanitary Districts, Port and Riparian comprised in the Customs Ports of Lynn, Yarmouth and Lowestoft.

[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural districts each Parish that is riparian is separately designated.]

I Kings Lynn, II Wells, III Yarmouth & IV Lowestoft.
Port Sanitary Districts

Wyman & Sons, Lt.d Lith. 63, Carter Lane 6237 7.94

SECTION V.

Customs Ports of Lynn, Yarmouth, and Lowestoft.

Illustrated in Map V.

LIMITS OF CUSTOMS PORTS.

(16.) *Lynn.*

The limits of the said Port of Lynn shall commence at the Bridge at the northern end of the Eau Brick Cut, called the Free Bridge, in the County of Norfolk, and proceed along and include the whole of the River Ouse to its termination in the Wash at the north end of the Marsh Estuary or New Cut; thence in a north and easterly direction along the coast of the said County to a place called Brancaster Staith, and from thence along the coast in an easterly direction to Sparrow Gap, a breach in the cliff halfway between Weybourne and Sherringham, being the western boundary of the Port of Yarmouth, and from Brancaster Staith aforesaid it shall extend to sea in a supposed straight line in a north-westerly direction to 14 fathoms water, and shall extend from thence in another straight line in a south-westerly direction to a place called Lutton Sluice in the county of Lincoln; and from thence in a south-easterly direction in a supposed straight line from Lutton Sluice aforesaid to Terrington Church, in the county of Norfolk, and so along the said coast of Norfolk to the western side of the River Ouse aforesaid, and shall*

Date of Treasury Warrant, 28th day of October 1880.

Within the boundaries of this Customs Port are comprised the Port Sanitary Districts of King's Lynn and of Wells, the Urban Riparian Sanitary District of Hunstanton and certain Riparian Parishes of the Rural Sanitary Districts of Freebridge Lynn, Docking, Walsingham, and Erpington. With the exception of two or three small harbours in the Docking Rural Sanitary District, the shipping trade is practically confined to the two Port Sanitary Districts, reports with regard to which will be found at pages 181 and 188 respectively.

(17.) *Yarmouth.*

The limits of the said Port shall extend from a place called Sparrow Gap, in the County of Norfolk, being the eastern limit of the Port of Wells, and thence along the coasts of the Counties of Norfolk and Suffolk to a place called League Hole in the last-mentioned County, being the commencement of the Port of Lowestoft, and shall*

Date of Treasury Warrant, 30th day of June 1854.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Yarmouth, the Urban Riparian Sanitary District of Cromer, and certain Riparian Parishes of the Rural Sanitary Districts of Erpingham and Smallburgh. Shipping trade is almost exclusively confined to the Yarmouth Port Sanitary District, with regard to which see report at p. 193.

(18.) *Lowestoft.*

The limits of the said Port shall commence at a place called League Hole, at Hopton, in the County of Suffolk (being the southern boundary of

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* See footnote, page 78, *ante*.

the Port of Yarmouth), to a place called Thorpe Ness, in the county of Suffolk, and shall*

Date of Treasury Warrant, 7th day of April 1852.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Lowestoft, the Urban Riparian Sanitary District of Southwold, and certain Riparian Parishes of the Rural Sanitary District of Blything. Shipping trade is confined to the Lowestoft Port Sanitary District and to the Southwold Urban Riparian District, reports with regard to which will be found at pages 199 and 204 respectively.

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* See footnote, page 78, *ante.*

Kings Lynn Port Sanitary District.

[Lynn Customs Port (part of).]

Inspector: Dr. S. M. Copeman. *Date of Inspection:* March 7th, 1893.

Date of Order *permanently* constituting Port Sanitary District: January 25th, 1889.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "The Mayor Aldermen and Burgesses of the Borough of Kings Lynn acting by the Council."

It exercises port functions in waters abutting upon the Kings Lynn Urban Sanitary District and upon the Kings Lynn, Wisbech and Freebridge Lynn Rural Sanitary Districts.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Lynn as is comprised within the following limits; that is to say,—a straight line coincident with the boundary of the Port between Terrington Church, in the County of Norfolk, and Lutton Sluice; a straight line coincident with the boundary of the said Port between Lutton Sluice and the nearest point in the said boundary due east of the Bell Buoy, and a straight line drawn from the last-mentioned point to the seaward extremity of the common boundary of the Parishes of Wolverton and North Wootton together with all islands and all rivers, bays, docks, harbours, fleets, creeks and watercourses communicating with or discharging themselves into the waters within the said limits; and together with"* &c.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Kings Lynn Urban Sanitary District.

Kings Lynn Rural Sanitary District. Parishes:—West Lynn and North Lynn.

Freebridge Lynn Rural Sanitary District. Parishes:—Gaywood, South Wootton, and North Wootton.

Wisbech Rural Sanitary District Parishes:—Terrington St. Clement and Clenchwarton.

4. *Apportionment of Expenses:*—According to the rateable value of the whole of the Kings Lynn Urban Sanitary District, and the rateable value of the riparian parishes of Freebridge Lynn and Wisbech Rural Sanitary Districts.

The proportions in 1892 were as follows:—

	£	*s.*	*d.*
St. Margaret - -	32	2	1
South Lynn - -	12	7	3
West Lynn - -	2	14	10
North Lynn - -	0	13	0
Gaywood - - -	3	13	9
Terrington - - -	10	15	10
Clenchwarton - -	3	5	0
	£65	11	9

* See footnote, page 89, *ante*.

5. *General Character and Efficiency of Administration:—*

Not very efficient. Systematic inspection of incoming vessels by Inspector of Nuisances entirely neglected, and the Port Sanitary Authority appears not to consider such routine inspection to be necessary.

6. *Ports from whence Ships arrive:—*

(Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

Foreign.—*Hamburg*, *Antwerp*, *Harburg*, *Bremen*, *Riga*, *Koenigsberg*, Ghent, Huelva, Christiania, St. Petersburg, Archangel, Rotterdam, American ports, Guernsey, &c.

Coastwise.—*Newcastle*, *Hull*, Goole, London, Sunderland, Port Madoc.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Imports—General goods in cases, such as glass, toys &c., raw fruit, sugar, oil-cake, corn, timber, stone, phosphate rock, sulphur ore &c.

Exports.—Coal, pitch, ammonia.

Rags.—Occasionally from Belgium.

Passengers.—Very rare.

Immigrants and transmigrants.—None.

8. *Amount of Shipping Inwards during three years*, 1880–91–92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	131	85,951	183	89,725	207	113,731
	Sailing	63	13,494	100	17,991	76	17,072
	Fishing	—	—	—	—	—	—
	Total Foreign	194	99,445	283	107,716	283	130,803
Coastwise.	Steamers	298	46,303	324	50,831	312	47,983
	Sailing	311	16,240	290	15,654	256	13,999
	Fishing*	137	—	143	—	144	—
	Total Coastwise	746	62,543	757	66,485	712	61,982

* These consist of a number of boats belonging to the Port employed in fishing in the Wash. They do not go to the North Sea Fishery.

9. *Inland Water Communication:—*

Lynn to St. Jermyns.
St. Jermyns to Denver Sluice.
Denver Sluice to Upwear.
Hundred Feet River.

10. *Lines of Railway conveying Goods from Port:—*

Great Eastern, Great Northern, Midland, and the Eastern and Midlands Railways.

11. *Medical Officer of Health:* S. M. W. Wilson.

Qualifications —M.R.C.S., L.S.A. Salary by fees (10*s.* for each vessel examined at Dock Head; two guineas for journey to mooring station).

Mr. Wilson also holds the office of Medical Officer of Health to the Kings Lynn Urban Sanitary Authority.

Character and efficiency of work done by Medical Officer of Health:—The Medical Officer of Health appears to have a fair knowledge of the duties of his post. He does a good deal of his work by deputy, he having appointed for this purpose Mr. F. A. Barrington, who lives close to the dock gates.

12. *Inspector of Nuisances:* E. J. Silcock.

Qualifications:—Civil engineer. Salary 25*l.* per annum, with repayment.

Mr. Silcock also holds appointment of Borough Surveyor and Water Works Engineer and Inspector of Nuisances to the Urban Sanitary District.

Character and efficiency of work done by Inspector of Nuisances:—This officer appears to have little or no knowledge of the duties of his post as Inspector of Nuisances to the Port Sanitary Authority. The other appointments which he holds in the town take up the greater part of his time, and in consequence he neglects altogether his duties in connexion with the port.

13. *Nuisances:*—

Habitual efficient dealing with—number of vessels inspected, foreign and coastwise, respectively during 1890–91–92, with number reported defective and number of orders issued in each year:—

Nothing has apparently been done hitherto in the way of routine inspection of shipping. The present Inspector of Nuisances was appointed in the middle of 1891, but the Town Clerk considers his time too valuable to be wasted in such work.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—

	Class of Vessels.	Number inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign — Steamers	2	—	—
	Foreign — Sailing	—	—	—
	Foreign — Fishing	—	—	—
	Total Foreign	2	—	—
	Coastwise — Steamers	—	—	—
	Coastwise — Sailing	—	—	—
	Coastwise — Fishing	—	—	—
	Total Coastwise	—	—	—
1892	Foreign — Steamers	5	—	—
	Foreign — Sailing	—	—	—
	Foreign — Fishing	—	—	—
	Total Foreign	5	—	—
	Coastwise — Steamers	—	—	—
	Coastwise — Sailing	—	—	—
	Coastwise — Fishing	—	—	—
	Total Coastwise	—	—	—

14. *Isolation Hospital:—*

The Urban and Port Sanitary Authorities have obtained a small cottage about a mile from the town, to which, in 1890, was added a pavilion for six beds. At high water, boats are said to be able to get within a quarter of a mile of the hospital, but at low water they cannot approach within a mile. A tug would convey patients as far as the quay. There is no resident caretaker, but a man and his wife are in charge, one of whom visits the place occasionally. In other respects the hospital is ready for immediate occupation. Nurse can be obtained in Lynn. There is room for extension as the surrounding land belongs to Corporation. A tent with accommodation for four beds is also available. There is an old and worn-out omnibus at the Sanitary Authority's depôt, which serves as an ambulance. Town water supply. Drains discharge into concreted cesspool. Earth closets. Washing done on premises.

15. *Disinfecting Apparatus:—*

There is a brick chamber for sulphur fumigation on a piece of waste land belonging to the Corporation, and near the Isolation Hospital.

16. *Mortuary:—*

There is a shed at the cemetery.
There is no Port mortuary.

17. *Regulations under Section* 125 *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease (Notification) Act*, 1889 :—

Adopted by Borough, but not independently by Port Sanitary Authority.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The intermediate space of the River Ouse between the south or upper end of the Marsh Estuary Cut and Purfleet Quay.

b. Arrangements as to detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Pilots board at the Bell Buoy about 12 miles out, and would detain vessel if infectious disease on board.

The Customs Authorities do not board until the quay is reached.

Captains of vessels from Hamburg and Antwerp are their own pilots, being licensed by Pilotage Commissioners.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

If vessels reach quay before illness is discovered, the Customs would telephone to Medical Officer of Health.

The Medical Officer of Health has, however, seen Mr. Winslow, the Harbour Master and Pilot Master, and arranged with him that instructions shall be given to his subordinates to keep vessels out if there should be illness on board. One man would remain on board and another come to the quay and telephone to Medical Officer of Health.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

The Town Council had, at the time of inspection, under consideration the purchase of a steam launch for use in connexion with lighting the channel. If one is purchased, Port Sanitary Authority have arranged for use of it when necessary.

e. Mooring Station :—

The mooring station is between the Bell Buoy and the Bar Flat. It is outside the jurisdiction of both Port Sanitary Authority and Customs, but is the only available area for the purpose in this part of the Wash. There is here good anchorage and plenty of sea-room. It is satisfactory.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health promised that it should be done in both cases.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Medical Officer of Health examines the crew in the chart-room, and afterwards compares his list of names with the number of the crew as stated in the captain's agreement.

h. Address Book :—

None provided.

i. Special Isolation Provision for Cholera :—

At the Isolation Hospital described in § 14.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

There is a small room in the "Cottage" portion of the hospital which might be used for isolation purposes.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

A boat could always be hired.
There is the ancient ambulance already mentioned.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) (*b.*) } Fumigation with sulphur.
(*c.*) None.

n. Arrangements made as to the disposal of the Dead :—

Corpses would be interred at the Cemetery. They could not be buried out at sea, because of trawling and dredging operations in the Wash.

o. Action as to Water Supply of Vessels from Infected Ports :—

Suspected vessels are ordered to discharge their water at the Dock Head. As they only come in on the top of a high tide, such water would be carried away on the ebb.

p. Action as to Bilges of Vessels from Infected Ports :—

Orders would be given for bilges to be pumped out if thought necessary. No disinfection has been carried out hitherto, and it is doubtful whether orders as to pumping out would be obeyed unless the Inspector of Nuisance goes on board to see it done.

Final Conference with the Kings Lynn Port Sanitary Authority was held on June 22nd, 1893, when formal recommendations were made with regard to the following matters :—

1. The necessity for securing the routine inspection of vessels entering the Port, as regards nuisances and unwholesome conditions generally.
2. The steps to be taken beforehand to secure, in the event of the extension of cholera in Western Europe, the medical inspection of all vessels entering the Port.
3. The provision of proper means for the conveyance by water of the inspecting officers and of the sick.
4. The adoption of the Infectious Disease (Notification) Act, 1889.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Recommendations 1 and 2 carried out "as far as practicable." Steam launch provided, which will be available for the purposes of Recommendation 3. As regards Recommendation 4, the Infectious Disease (Notification) Act has been adopted by the Port Sanitary Authority (August 9th, 1893). [Letter to the Board, dated November 3rd, 1893,

from the Clerk to the Port Sanitary Authority.] During the year 1893, 53 vessels were inspected by the Medical Officer of Health—special attention being paid to vessels arriving from both Foreign and British "infected ports." The passengers on such vessels were examined, and if proceeding beyond Lynn, notice was sent to the Medical Officers of Health of the Districts they were about to visit. The Urban Sanitary Authority have purchased a steam disinfector, which will be available for Port Sanitary purposes. [Annual Report of the Port Medical Officer of Health for the year 1893.]

Wells Port Sanitary District.

[Lynn Customs Port (part of).]

Inspector: Dr. S. M. Copeman. *Date of Inspection:* February 20th and 21st, 1893.

Date of Order *permanently* constituting Port Sanitary District: September 6th, 1887.

1. *Constitution of Port Sanitary Authority:—*

   The Port Sanitary Authority is the Wells Improvement Commissioners. It exercises Port functions in waters abutting upon the Wells Urban Sanitary District only.

2. *Limits of Jurisdiction:—*

   "So much of the Customs Port of Lynn as lies to the south of the Wells Fairway Buoy and abuts upon the Parish of Wells-next-the-Sea; together with the waters,"* &c., &c.

   The limits of jurisdiction may be considered to be satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

   No Riparian Districts are included except the Wells Urban Sanitary District.

4. *Apportionment of Expenses:—*

   Wholly defrayed by the Wells Improvement Commissioners, acting as the Port Sanitary Authority.

5. *General Character and Efficiency of Administration:—*

   The administration of the Port Sanitary Authority cannot be considered satisfactory. This may in part be accounted for by the fact that the funds at the disposal of the Port Sanitary Authority are very small in amount, the district being a poor one at the present time. The salaries of the officers are so meagre that efficient discharge of their duties can hardly be expected.

6. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

   FOREIGN :—*St. Petersburg*, *Riga*, Antwerp, Cherbourg.
   COASTWISE :—Newcastle, Sunderland, Hartlepool.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

   Imports.—Various, but chiefly oil-cake, coal, and granite. There is practically no export trade, and there never has been any passenger traffic.

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* See footnote, page 89, *ante*.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	—	—	—	—	—	—
	Sailing	6	738	11	955	4	395
	Fishing	—	—	—	—	—	—
Total Foreign		6	738	11	955	4	395
Coastwise	Steamers	5	294	1	74	—	—
	Sailing	34	2,122	33	2,041	25	1,685
	*Fishing			No account.			
Total Coastwise		39	2,146	34	2,115	25	1,685

*Not more than six per annum. There are four small fishing boats belonging to Wells, of which three are stated to be laid up owing to the destruction of the mussel beds in the offing.

9. *Inland Water Communication :—*

There is no inland water communication.

10. *Lines of Railway conveying Goods from Port :—*

The Great Eastern Railway only.

11. *Medical Officer of Health :* Frederick Long.

Qualifications :—L.R.C.P. and M.R.C.S. Salary, 5*l.* per annum, with repayment.

Also acts as Medical Officer of Health for the Wells Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—

In 1892 the Medical Officer of Health inspected all the vessels "coming foreign," four in number, three of which, however, he did not board until they were alongside the quay. He appears to have a fair knowledge of the duties of his post, but until recently has done little or nothing.

12. *Inspector of Nuisances :* James William Richford.

No sanitary certificate. Salary, 3*l.* per annum, with repayment.

Also holds the appointments of Inspector of Nuisances for Wells Urban Sanitary District ; Surveyor to the Commissioners at 10*s.* per week ; and Inspector of the Cleansing Department.

Character and efficiency of work done by Inspector of Nuisances :—

This officer appears fairly intelligent, but has not much idea as to the duties of his post. He occasionally carries out routine inspection of incoming vessels; but he informed the Inspector that he never took steps to see that any order which might be given was duly carried out.

13. *Nuisances :—*

No records have been kept for 1890–91, and apparently no routine inspections were carried out during those years.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	—	—	—
		Sailing	4	—	—
		Fishing	—	—	—
		Total Foreign	4	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	4	—	—
		Fishing	—	—	—
		Total Coastwise	4	—	—

14. *Isolation Hospital:—*

There is no Isolation Hospital. A small cottage consisting of two rooms and a store-closet was, however, in 1892 leased from Lord Leicester at a nominal rent with the idea of converting it into an Isolation Hospital for both Urban and Port purposes. It is situate on a hill about one mile due south of the town and 1½ miles from the Harbour Quay. It would hold two patients only, with possibly a nurse also, but at the time of inspection it was absolutely unfurnished. A nurse could be obtained at short notice from a Home at Fakenham. There is no means of conveying patients to hospital. It would be hardly worth while to build on the present cottage. There is a well adjacent, and the cottage is provided with an earth-closet.

15. *Disinfecting Apparatus:—*

The Port Authority does not possess any disinfecting apparatus.

16. *Mortuary:—*

None provided.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Adopted by the Port Sanitary Authority, March 9th, 1892.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

The Customs Authorities define the Boarding Station as situate between the entrance to the Harbour and the Quay (a distance of about 4½ miles). As a matter of fact, however, the Customs Officer always boards at the Quay, as he does not possess a boat. The Customs stated that if the Medical Officer of Health chartered a tug, the Customs Officer would be permitted to accompany him at the expense of the Sanitary Authority.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Pilots always go out to the larger vessels, but in rough weather cannot always get on board. It is presumed that they would not, contrary to the regulations of the Quarantine Act, bring in a vessel which they learnt had infectious disease on board, but they did not appear to have received any definite instructions. If a vessel once had entered the channel it could not be got out again until next tide, and if of large draught, possibly not for a fortnight.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Medical Officer of Health had arranged with the master of a steam-tug to let him know when a vessel is coming in. He (the Medical Officer of Health) went out on this tug on one occasion in 1892, but found such difficulty in boarding that vessel that on subsequent occasions he awaited its arrival at the Quay.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

The Medical Officer of Health can arrange to go out on a steam-tug at the expense of the Sanitary Authority, but the Sanitary Authority do not care to incur the expense, and the Medical Officer of Health does not appreciate the experience.

e. Mooring Station :—

The Mooring Station is extremely unsatisfactory. It is a curved portion of the channel (about $1\frac{1}{4}$ miles from the Quay), which is left completely dry at low water, so that communication could be easily carried out with persons from the town. No vessel of average size could be got to this spot, and if not allowed to proceed up to the Quay, would completely block the channel. There is no anchorage outside the channel, as there is a sand bottom, so that the nearest safe mooring station would be Blakeney Pit, about five miles off, while to the West there is none nearer than Lynn.

f. Inspection of Vessels ("infected" or from "infected port") :—

During 1892 the Medical Officer of Health inspected *every* vessel "coming foreign" [but see section 11 *supra*].

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

Inspects all the crew on deck in either case.

h. Address Book :—

None provided.

i. Special Isolation Provision for Cholera :—

No provision made.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None made.

l. Means provided for transfer of infected Persons from Ship to Hospital:—

No special means of transfer provided, though small boats would be available and the Medical Officer of Health proposed to extemporize a stretcher out of canvas.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) There is no disinfecting apparatus, but all infected clothes, &c. would be burnt.

(*b.*) "Infected" bunks would be fumigated with sulphurous acid gas.

(*c.*) No arrangements made.

n. Arrangements made as to the disposal of the Dead:—

No arrangements have been made.

o. Action as to Water Supply of Vessels from infected Ports:—

The Medical Officer of Health stated that he would endeavour to arrange that water should be pumped overboard, on an ebb tide, before the vessel entered the harbour.

p. Action as to Bilges of Vessels from infected Ports:—

No action had been taken prior to inspection, but the Medical Officer of Health promised that bilges should be cleared out in future. The Customs Officer promised to co-operate as far as possible with the Inspector of Nuisances.

Final Conference with the Wells Port Sanitary Authority was held on June 21st, 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of an efficient hospital.
2. The provision of proper means for the conveyance by water of their inspecting officers and of the sick.
3. The fixing, in conjunction with the Chief Officer of H.M. Customs for the District, of a suitable Mooring Station.

Action taken by the Port Sanitary Authority since Inspection.

During the year 1893, 15 vessels hailing from foreign ports were boarded by the Port Medical Officer of Health on their arrival at the Quay. In the case of vessels from "infected ports" the bilge water had been pumped out before the vessels reached the Quay. No case of infectious disease was met with. [Annual Report of Port Medical Officer of Health for the year 1893.]

No information yet received (September 1895) as to any special action by the Port Sanitary Authority with a view to carrying out the recommendations above referred to.

Yarmouth Port Sanitary District.

[Yarmouth Customs Port (part of).]

Inspector: Dr. S. M. Copeman. *Date of Inspection:* February 7th, 1893.

Date of Order *permanently* constituting Port Sanitary District: November 17th, 1887.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is the Mayor, Aldermen, and Burgesses of the Borough of Great Yarmouth, acting by the Council. It exercises Port functions in waters abutting upon the Rural Sanitary Districts of Blofield, Loddon, and Clavering, East and West Flegg, and of Mutford and Lothingland, as well as upon the Urban Sanitary District of Great Yarmouth.

2. *Limits of Jurisdiction :—*

"So much of the said Port as lies seawards of the coast between Flood Gate at the northern boundary of the Parish of Winterton and the southern boundary of the said Port at League Hole, in the Parish of Corton ; together with—

(1.) "The River Yare from its mouth to Breydon Water ;

(2.) "Breydon Water ;

(3.) "The River Yare from its junction with Breydon Water at the south-western extremity thereof to a straight line drawn from the southern extremity of the common boundary of the Parish of Reedham and the detached part of the Parish of Moulton at right angles to the adjacent bank of the River, and continued thence across the River to the opposite bank ;

(4.) "The River Bure from Breydon Water to a straight line drawn across the River opposite a point where the common boundary of the Parishes of Great Yarmouth and Caistor-next-Yarmouth terminates on the east bank of the River ; and

(5.) "The River Waveney from Breydon Water southward to a straight line drawn across the River at the termination of the common boundary of the Parishes of Burgh Castle and Belton ; together with the waters,"* &c.

These limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Great Yarmouth Urban Sanitary District.

Blofield Rural Sanitary District. Parishes :—

Reedham, Moulton, Beighton, Freethorpe, and Runham.

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* See footnote, page 89, *ante.*

Loddon and Clavering Rural Sanitary district. Parishes :— Chedgrave and Langley.

East and West Flegg Rural Sanitary District. Parishes :— Winterton, Hemsby, Ormsby St. Margaret with Scratby, and Caistor-next-Yarmouth.

Mutford and Lothingland Rural Sanitary District. Parishes :— Burgh Castle and Hopton.

4. *Apportionment of Expenses :—*

Wholly borne by the Urban Sanitary Authority of the Borough of Great Yarmouth.

5. *General Character and Efficiency of Administration :—*

The administration of Port Sanitary matters is apparently extremely inefficient.

6. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

FOREIGN.—*Baltic Ports, including Russian :* Krageroe. Ports in Denmark, Rotterdam, Groningen, Hamburg, Roscoff, St. Ubes, and occasionally Ports in America.

COASTWISE.—*London* and *the Coal Ports in the North.*

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports : Timber, ice, salt, grain, manures, oil-cake, moss litter from Holland, &c. No regular passenger trade.

Exports : Pitch, bran, oil-seed, cake, and herrings.

8. *Amount of Shipping Inwards during three years* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	28	11,786	37	13,692	33	14,276
	Sailing	205	41,027	167	33,528	180	34,254
	Fishing*	49		79		39	
	Total Foreign	282	52,813	283	46,220	252	48,530
Coastwise.	Steamers	1,023	113,890	1,034	117,794	886	107,747
	Sailing						
	Fishing	—	—	—	—	—	—
	Total Coastwise	—	—	—	—	—	—

* Tonnage averages 40 to 50 each.

In addition to the above, there are a large number of fishing vessels which arrive from the North Sea Fishing Grounds, probably averaging 20 a day during the months of January to September; and from September to December, during the herring fishery season, the arrivals probably number 40 daily.

9. *Inland Water communication :—*

With the Rivers Waveney, Wensum (for Norwich), and Bure.

According to the Town Clerk of Yarmouth, no supervision exercised.

10. *Lines of Railway Conveying Goods from Port:—*

Great Eastern
Eastern and Midlands } Railways.

11. *Medical Officer of Health:* John Bately.

Qualifications:—M.D. Durh., &c. Salary, 25*l.* per annum, with repayment.

Also acts as Medical Officer of Health for the Great Yarmouth Urban Sanitary Authority.

Character and efficiency of work done by Medical Officer of Health:—Dr. Bately is a conscientious and painstaking officer, who has a good knowledge of all matters relating to shipping. He is, however, much hampered by the supineness and occasional antagonism of his authority.

12. *Inspector of Nuisances:* Patrick O'Connor.

No sanitary certificate. Salary, 10*l.* per annum, with repayment.

Also holds the office of Inspector of Nuisances for half the Yarmouth Urban Sanitary District.

Character and efficiency of work done by Inspector of Nuisances:—He is supposed to devote his whole time to the duties of his Urban and Port appointments. As a matter of fact, however, it appears that the Urban appointment alone is more than sufficient to occupy his time, and further that when appointed Port Inspector he was informed that he would not be expected to do any work. This instruction he had carried out to the letter, *never* during the time that he had held the post having inspected a vessel on his own initiative. He was formerly a pork butcher, and is apparently quite ignorant of everything appertaining in any way to shipping.

13. *Nuisances:—*

Habitual efficient dealing with—number of vessels inspected, foreign and coastwise, respectively during 1890–91–92, with number reported defective and number of orders issued in each year:—The Authority consider, that as vessels are cared for "by the Board of Trade," it is unnecessary for their Inspector of Nuisances to carry out the duties imposed on him by the Board's Orders. He lives in the town at a considerable distance from the harbour, and so would often not be available even if wanted. The Medical Officer of Health gave him a book in which three entries are made (all on November 17th, 1892, when he was taken in hand by the Medical Officer of Health).

14. *Isolation Hospital:—*

There is no Port hospital. The Urban hospital would be used. Erected in 1875. It is bounded on the south by 25 acres of cemetery; on the north by open land, the nearest building being distant 200 yards; on the east it is open to the sea; and on the west it is bounded by the Workhouse grounds.

There are wide roads on the south and west. It is distant 1 mile from the nearest point of the harbour, and about 2 miles from that part at which large vessels can lie up.

The town water-supply is laid on, and the place is connected with town sewerage system. There is no laundry. The building consists of two wards, separated by a caretaker's living-room. Each ward is divided into two parts by a wooden partition. There is a trained nurse on the premises, who lives in an iron hut near the hospital. There is ample room for extension, but an alternative site at Gorleston has been proposed, and finds favour with some members of the Town Council.

There is an old brougham which is used for an ambulance.

15. *Disinfecting Apparatus:*—

Goddard and Massey's high-pressure steam apparatus at Isolation Hospital; but the situation is unsuitable for disinfection of goods from shipping.

16. *Mortuary:*—

There is a small room at the Isolation Hospital. It has no provision for water-supply or drainage. A better shed, properly equipped, has quite recently been obtained near the mouth of the river at Gorleston.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Adopted by Port Sanitary Authority, November 20th, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

About a mile within harbour. No boarding at night; and vessels are not detained here except in suspicious cases. During the autumn of 1892, however, nearly all vessels coming foreign were detained.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

Customs do not board any vessels outside.

Medical Officer of Health warns pilots not to bring in vessels from "infected ports" until he has boarded, which takes place some time before the Customs get on board, as the Medical Officer of Health boards outside harbour in such cases.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health:—

A printed notice is filled in and sent by special messenger to the Medical Officer of Health by the Customs Authorities as soon as a vessel "coming foreign" is sighted (generally when in the Roads).

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships:—

A boat is hired as wanted, and is paid for by the Port Sanitary Authority (10*s*. each time).

e. Mooring Station :—

With the co-operation of the Customs Authorities a mooring station (limits elastic) was appointed, about a mile out to sea, just south of Gorleston Pier. In strong easterly winds, vessels probably could not keep to this station, and would have to "run."

No buoys have been laid down.

f Inspection of Vessels ("infected" or from "infected port") :—

Every vessel "coming foreign" is boarded and inspected by the Medical Officer of Health. He goes out to such vessels as soon as he has notice of their arrival.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

In both cases the crew and passengers, if any, are mustered on deck, and particular inquiry is made of the stokers, who, according to the Medical Officer of Health, are specially liable to infectious disease.

h. Address Book :—

None provided.

i. Special Isolation Provision for Cholera :—

In September 1892, the Port Sanitary Authority hired a collier hulk for cholera purposes, but only retained it for a couple of months (at a cost of 60*l.*). At date of inspection there was no provision of any kind, but the Port Sanitary Authority had acquired from the Haven Commissioners the use of a wooden hut on the beach near the pier head, which possibly might serve the purpose if properly put in order. It has, however, no windows, and no means of warming or ventilating, being only used for the storing of barrows, cement, &c. Its dimensions are about (30 × 36 × 14) feet. There is no stock of beds or other necessary stores, and the shed could not, apparently, be rendered habitable for some time.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None made.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Steam disinfecting chamber at Town Isolation Hospital.
(*b.*) Fumigation with sulphurous acid.
(*c.*) Small bales might be disinfected in urban apparatus.

n. Arrangements made as to the disposal of the Dead :—

None made at date of inspection.

o. Action as to Water Supply of Vessels from Infected Ports:—

The Medical Officer of Health on boarding gives directions for water to be discharged from tanks while outside harbour. If he then permits the vessel to proceed up the harbour, he gives captain an order on the Waterworks for new supply at cost of Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports:—

Vessels coming from foreign are required by the Medical Officer of Health to pump out their bilge before coming into harbour. There has been no systematic disinfection of bilges.

Final Conference with the Yarmouth Port Sanitary Authority was held on March 21st, 1893, when formal recommendations were made with regard to the following matters:—

1. The appointment of a Port Inspector of Nuisances to devote his whole time to the duties of his office.
2. The provision of proper hospital and ambulances.
3. The provision of a launch or boat for the conveyance of their inspecting officers by water.
4. The registration and inspection of wherries.
5. The steps to be taken beforehand to ensure, in the event of any marked extension of cholera in Europe, the medical inspection of all vessels entering the Port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. An Assistant Port Sanitary Inspector of Nuisances appointed for six months.
2. A hospital for infectious cases other than small-pox and cholera; also a small-pox station on the outskirts of the Borough, in course of erection. A cholera hospital near the harbour's mouth, virtually completed.
3. Arrangements made with a tug company and a boat company for the conveyance of the Medical Officer of Health and the Port Sanitary Inspector to foreign vessels brought up in the roadstead. A small boat also provided for boarding within the harbour.
4. Every ship from foreign, reported by Custom Officers to the Medical Officer of Health, who at once inspects ship and crew [letter from Town Clerk, May 23rd, 1893]. All fishing vessels and small coasters boarded within harbour by day or night. All vessels from "infected ports," over sea or at home, requiring pilots, kept in roadstead until visited by Medical Officer of Health. [Letter from Town Clerk, September 15th, 1893.]

A permanent Port Inspector of Nuisances to give his whole time to his duties, appointed 1893.

During 1893, 1,004 vessels were inspected by the Port Inspector of Nuisances, and of these, 407 were found to be defective in one or another respect, and in 392 these defects were remedied. [Annual report of Port Medical Officer of Health for 1893.]

During 1894, 1,209 vessels were inspected by the Port Inspector of Nuisances, and of these, 666 required cleansing in one or more particulars. Inspection of wherries now carried out. [Annual Report of Port Medical Officer of Health for 1894.]

Lowestoft Port Sanitary District.

[Lowestoft Customs Port (part of).]

Inspector: Dr. S. M. Copeman. *Date of Inspection:* February 9th and 10th, 1893.

Date of Order *permanently* constituting Port Sanitary District: July 3rd, 1879.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Lowestoft acting by the "Council." It exercises port functions in waters abutting upon the Urban Sanitary District of Lowestoft and the Rural Sanitary District of Mutford and Lothingland.

2. *Limits of Jurisdiction :—*

So much of the Port of Lowestoft as "abuts on the seacoast of "the Borough, and of the Parish of Gunton, and of the Parish "of Corton as far northwards as League Hole, together with "Lake Lothing Inner Harbour below Mutford Dock, and "the waters,"* &c.

The limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

The Urban Sanitary District of Lowestoft.

The Hundred of Mutford and Lothingland, being a Rural Sanitary District. Parishes :—

Corton, Gunton, Carlton Colville, and Oulton.

4. *Apportionment of Expenses :—*

About five-sixths by the Urban Sanitary Authority in proportion to rateable value.

About one-sixth by the Rural Sanitary Authority in proportion to rateable value of the parishes within the Rural Sanitary District which abut upon the port.

5. *General Character and Efficiency of Administration :—*

Good as far as it goes. But the Inspector of Nuisances is much hampered in his port work by the multiplicity of other duties that have been imposed upon him by the Town Council. Some of these ought to be relegated to another official, so that he might be able to carry out inspection of shipping more thoroughly.

6. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign.—Numerous ports in *Norway*, and *Sweden*, *Riga*, Cronstadt, *Memel*, Antwerp, Maasluis, *Vlaardingen*, Channel

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* See footnote, page 89, *ante*.

Islands, Faro (Portugal), Alexandria, Morocco, *Ostend*, Calais, Boulogne, Dieppe, and some few other foreign ports.

COASTWISE.—Mainly from London and the coal ports in the north.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

IMPORTS.—Timber, ice, locust beans, corn, cotton seed, fish, granite. There is no foreign passenger traffic at the port.

EXPORTS.—Practically nil.

8. *Amount of Shipping Inwards during three years*, 1890-91-92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	31	15,489	32	15,854	36	16,815
	Sailing	193	15,162	157	11,979	116	10,434
	Fishing	218	10,807	182	8,737	128	6,458
Total Foreign		442	41,458	371	36,570	280	33,707
Coastwise.	Steamers	552	61,096	537	60,576	501	56,206
	Sailing			About 15,000 annually.			
	Fishing						
Total Coastwise		—	—	—	—	—	—

9. *Inland Water Communication :—*

To Norwich, Beccles, Yarmouth, and other towns by way of the rivers and broads of Suffolk and Norfolk.

Some of the "wherries" which carry on the river traffic are inspected occasionally at Lowestoft. They are not registered, however, and are never inspected at either Yarmouth or Norwich.

10. *Lines of Railway conveying Goods from Port :—*

The Great Eastern Railway Company.

11. *Medical Officer of Health :* William Arnold Smith Wynne.

Qualifications :—M.D. Salary, 20*l.* per annum; with repayment.

Dr. Wynne also acts as Medical Officer of Health to the Urban Sanitary Authority and to the Rural Sanitary Authority of Mutford and Lothingland.

Character and efficiency of work done by the Medical Officer of Health :—

The Medical Officer of Health is a retired officer of the Indian Medical Service. He is not in practice, but lives at St. Olave's, about eight miles from Lowestoft, to which place there is a good train service by two branch lines. He gives much more time to the duties of this post than could reasonably be expected for such a salary as he receives. He is an able and energetic officer, who has introduced many needful reforms as occasion offered.

12. *Inspector of Nuisances :* Philip Kett.

Qualifications :—Cert. of San. Inst. Salary, 20*l.* per annum; with repayment. Mr. Kett also acts as Inspector of Nuisances to the Lowestoft Urban Sanitary Authority, and as Inspector

of Cowsheds and Dairies, Food and Drugs, Superintendent of Cleansing Department, Inspector of Buildings, Mace-bearer, and Public Prosecutor.

Character and efficiency of work done by Inspector of Nuisances :—

The Inspector of Nuisances is well up in his work, and would appear to carry out certain of his duties in a most satisfactory manner. He is, however, unfortunate in not having had a particularly good education, and also in the great number of different posts which have been imposed on him by his Authority, more especcially such incongruous ones as those of Mace-bearer and Public Prosecutor.

13. *Nuisances :—*

No detailed account kept since 1889, but the Inspector of Nuisances supplied information as follows :—

1890 - 200 vessels inspected.
„ - 7 received orders to whitewash.
„ - 2 „ „ „ clean.
1891 - 192 vessels inspected.
„ - 14 received orders to clean.
1892 - 273 vessels inspected.
„ - 3 received orders to whitewash.
„ - 5 „ „ „ clean.
All orders complied with.

14. *Isolation Hospital :—*

A new hospital for the Urban Sanitary District in course of erection on the same site as an old wooden building hitherto used for the purpose, the contract price being 2,728*l*. This hospital is situate at a distance of about half a mile from the Inner Harbour as the crow flies, but it is a question as to whether permission could be obtained for crossing the Great Eastern Railway line which intervenes. If such permission should be withheld, it would necessitate a round of more than a mile. There are eight beds in the wooden hospital, while the new one will contain fourteen. In addition, a temporary iron hospital, erected in a corner of the old site in 1892 to serve for cholera patients, contains four beds. There is an ambulance kept at the sanatorium. The town water-supply will be laid on to the new building, which will also have water-closets instead of earth-closets as at present. There is a laundry in the office block.

15. *Disinfecting Apparatus :—*

There is a high pressure steam disinfecting apparatus set up by Goddard and Massey in the present office block of the isolation hospital, which is efficient in type, and in good working order.

16. *Mortuary :—*

In the office block at the sanatorium is a small room called by courtesy the mortuary, but without post-mortem table or water-supply.

There is, however, an admirable port mortuary and post-mortem room on the beach near the fishmarket. Water is laid on; there is a fireplace and lavatory accommodation.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

Regulations under the above section were made in 1888, and approved by the Local Government Board on September 28th that year.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Adopted by the Port Sanitary Authority, December 10th, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station :—

At the Trawl Market Quay Head only. Vessels are boarded by the Customs here at night as well as by day.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Pilots are under orders from Customs Officer not to bring in ships with illness on board until Medical Officer of Health has been on board.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

Address of Medical Officer of Health, who lives at St. Olave's about eight miles from Lowestoft, is always left at the Club house of the Norfolk and Suffolk Yacht Club, near the Harbour. In 1892 three deputies living in the Town were appointed, one of whom could be summoned without loss of time.

d. Means provided, or facilities given, for Conveyance of Medical Officer of Health to Ships :—

Vessels are usually boarded both by Customs and Medical Officer of Health from the Quay Head : a boat is hired if necessary, at the cost of the Port Sanitary Authority.

e. Mooring Station :—

Outside the harbour, half a mile on either side of the pier head, this arrangement being necessary so as to avoid effect of certain winds.

No buoys have been provided.

The mooring station is satisfactory.

f. Inspection of Vessels (" infected " or from " infected port ") :—

In either case vessels would be inspected by the Port Medical Officer of Health.

g. Examination of Persons on Vessels (" infected " or from " infected port ") :—

The crew are mustered on deck and examined after looking through the ship's papers.

h. Address Book :—

None kept.

i. Special Isolation Provision for Cholera :—

Iron hut erected in 1892 on site of Urban Infectious Diseases Hospital.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None at time of inspection. If any cases of cholera arrived, another hut for isolation purposes could be set up within a week.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) In high pressure steam apparatus at Town Sanatorium.
(*b.*) Sulphur fumigation.
(*c.*) None.

n. Arrangements made for the Disposal of the Dead :—

No arrangements made.

o. Action as to Water-supply of Vessels from Infected Ports :—

Customs House Officers see to water being pumped out.
Fresh water is supplied at cost of the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

Order given for bilge to be pumped out if thought necessary.
There had been no instance of disinfection of bilges up to the date of inspection.

Final Conference with the Lowestoft Port Sanitary Authority was held on March 22nd, 1893, when formal recommendations were made with regard to the following matters :—

(1.) The appointment of a Port Inspector of Nuisances to devote his whole time to his duties.
(2.) The provision of proper means for the conveyance by water of their inspecting officers and of the sick.
(3.) The Registration and Inspection of Wherries.
(4.) The steps to be taken beforehand to secure, in the event of any marked extension of cholera in Western Europe, the medical inspection, by night as by day, of vessels entering the port.

Action taken by the Port Sanitary Authority since Inspection.

In the spring of 1893, a beachman was engaged as watchman, and a four-oared open boat was hired for sea and harbour purposes, while two medical men resident in the town were appointed as temporary Deputy Medical Officers of Health. Immediate notice was thus obtained by the officials of the Health Department of the arrival of any vessel from an infected port, and all such were boarded. No cases of cholera or of choleraic diarrhœa were discovered.

[Report of Port Medical Officer of Health for 1893.]

SOUTHWOLD URBAN RIPARIAN SANITARY DISTRICT.

[Lowestoft Customs Port (part of).]

Inspector: Dr. S. M. Copeman. *Date of Inspection:* April 25th, 1893.

This Riparian District is under the jurisdiction of the Town Council of the Borough of Southwold. The coastline is limited to sea front of the town and parish of Southwold.

Shipping Trade:

No Foreign trade.

Coastwise.—*Hartlepool*, Grimsby, Seaham, Sunderland.

Imports.—Coal and building materials.

Exports.—None.

Amount of Shipping Inwards during Three Years, 1890-91-92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign - Steamers, Sailing, Fishing	—	Nil.	—	Nil.	—	Nil.
Total Foreign	—	—	—	—	—	—
Coastwise - Steamers	—	—	—	—	—	—
Coastwise - Sailing	10	324	6	199	4	117
Coastwise - Fishing	11	271	8	195	13	289
Total Coastwise	21	595	14	394	17	406

Goods are conveyed from this Riparian District by the Southwold Railway which communicates with the Great Eastern Railway at Halesworth.

Chief Facts reported as regards Administration.—Neither the Urban Medical Officer of Health (Francis Henry Vertue, M.R.C.S.*) nor the Urban Inspector of Nuisances (William Henry Porter) had prior to the Inspector's visit carried out any riparian duties.

The Sanitary Authority possesses neither an isolation hospital or a disinfecting apparatus. An old shed originally built as a fire-engine house has been used as a mortuary. The Infectious Disease (Notification) Act, 1889, was adopted July 16th, 1890. No regulations under section 125 of the Public Health Act, 1875 have been drawn up.

Arrangement made to carry out the Board's Cholera Orders.

a. Customs Boarding Station or Stations.—The harbour at Walberswick about 1 mile south of Southwold. Vessels are never boarded outside.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—There are some Pilots (unlicensed and number unknown) at Walberswick for local traffic and also four Trinity Pilots possessing a cutter, who go out to vessels going round to the Thames. None of these apparently had, prior to the Inspector's visit, received any special instructions.

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* Since deceased.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—The Coastguard Officer would, if necessary, telegraph or send a special messenger to the Medical Officer of Health at Southwold.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—None other than small rowing boats which can be hired.

e. Mooring Station.—None fixed.

f. Inspection of Vessels ("infected" or from "infected port").—No arrangements made prior to the Inspector's visit.

g. Examination of Persons on Vessels ("infected" or from "infected port").—No arrangements made prior to the Inspector's visit.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made.

l. Means provided for transfer of infected Persons from Ship to Hospital.—None.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods.—None.

n. Arrangements as to the disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—None.

p. Action as to Bilges of Vessels from Infected Ports.—None.

Final Conference with the Southwold Urban Riparian Sanitary Authority was held on October 13th, 1893, when formal recommendations were made with regard to the following matters:—

1. Hospital provision.
2. The duties and obligations devolving upon the Sanitary Authority under the Cholera Orders and Regulations of the Local Government Board.

Action taken by the Urban Riparian Sanitary Authority since Inspection.

"Pending the carrying out of a Drainage Scheme in the Borough" the Town Council "have deferred giving . . . . recommendations further attention." [Letter from Town Clerk, March 7th, 1894.]

SECTION VI.

Customs Ports of Ipswich, Harwich, and Colchester.

Illustrated in Map VI.

LIMITS OF CUSTOMS PORTS.

(19.) *Ipswich.*

The limits of the said Port of Ipswich shall commence at the River Orwell, at a supposed straight line drawn between Shotley Point on the west side of the said River and Fagborough Head on the east side of the said River, being the boundary limit in the said River of the Port of Harwich, and shall continue up the said River, and include both sides thereof to a certain Lock called Handford Lock in the Town of Ipswich, together with the docks, basins, quays, and wharves in the said Town, and also including all other rivers, creeks, and harbours within the aforesaid limits, and further, that the seaboard limits of the said Port of Ipswich shall commence at the point of land or sand called the Platters, on the north-east side of Languard Fort, in the County of Suffolk, and rather more than a mile to the eastward of the said Fort (that being the north-eastern seaboard limit of the Port of Harwich), and shall continue thence in a northerly direction along the coast of the County of Suffolk, to a place called Thorpe Ness, in the said County (being the southern limit of the Port of Lowestoft), and shall*

Date of Treasury Warrant, 23rd day of March 1882.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Ipswich, the Urban Riparian Sanitary Districts of Aldeburgh, Woodbridge, and Felixstowe-and-Walton, and certain Riparian Parishes of the Rural Sanitary Districts of Blything, Plomesgate, and Woodbridge. Of these several districts the shipping trade, with the exception of some small coasting trade at Woodbridge, is practically confined to the Ipswich Port Sanitary District and the Urban Riparian District of Aldeburgh, reports with regard to which will be found at pages 203 and 214 respectively.

(20.) *Harwich.*

The limits of the said Port shall commence at the point of land or sand called the Platters, on the north-east side of Languard Fort in the County of Suffolk, and rather more than a mile to the eastward of the said Fort, being the south-west boundary of the Port of Woodbridge, and continued seaward in a supposed straight line to the inside or west side of the sand called The Cork, and continued from thence in a supposed straight line to the promontory or point of land called the Naze Point, in the county of Essex, being the north-eastern boundary of the Port of Colchester, and shall extend seaward to a distance of three miles from low-water mark along the aforesaid boundaries, and shall include all islands, bays, harbours, rivers, or creeks within the aforesaid boundaries, and shall extend inland up the River Orwell on both sides to a supposed straight line drawn between Shotley Point on the west side of the said River to Fagborough Head on the east side of the said River, being the southern boundary of the

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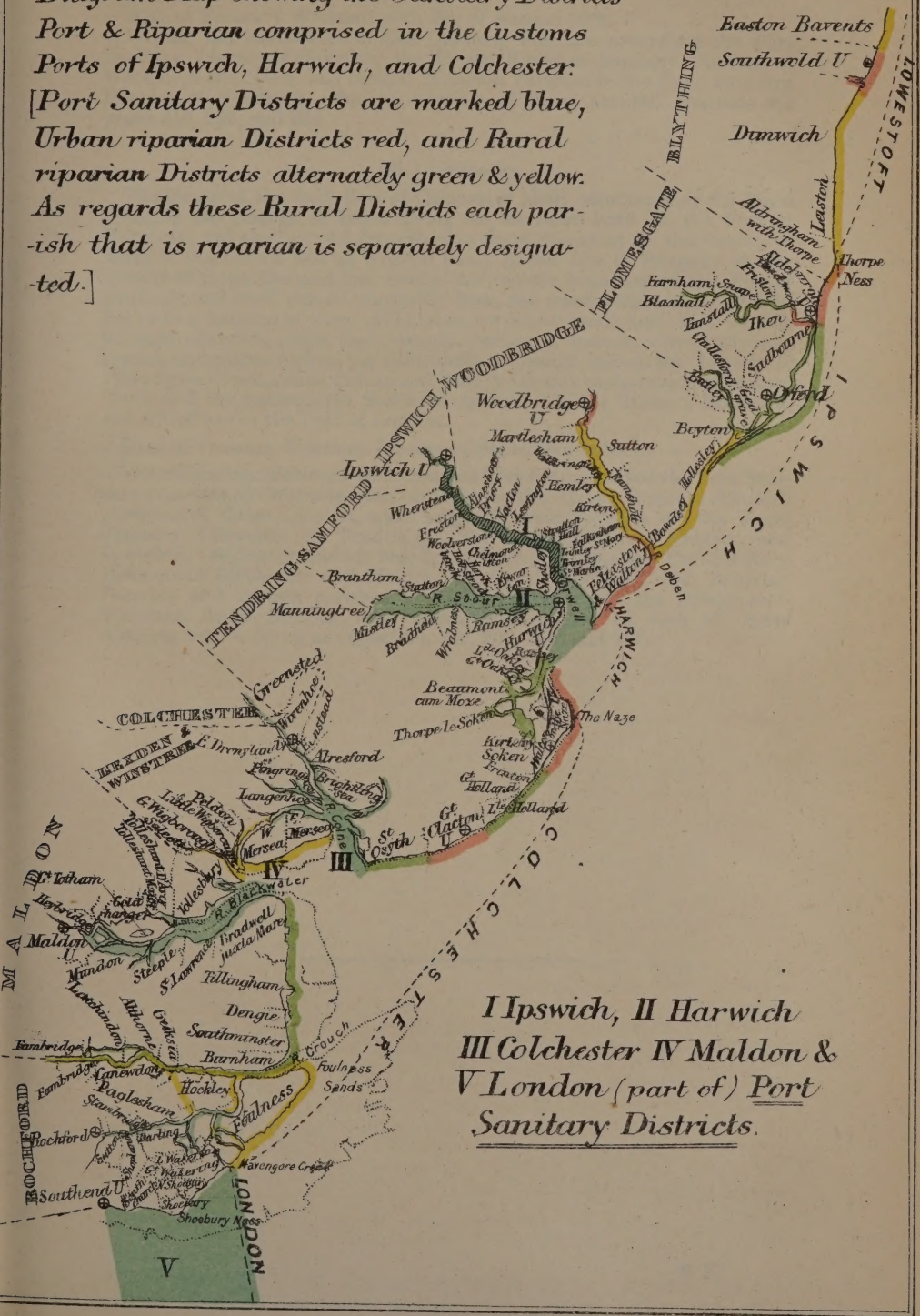
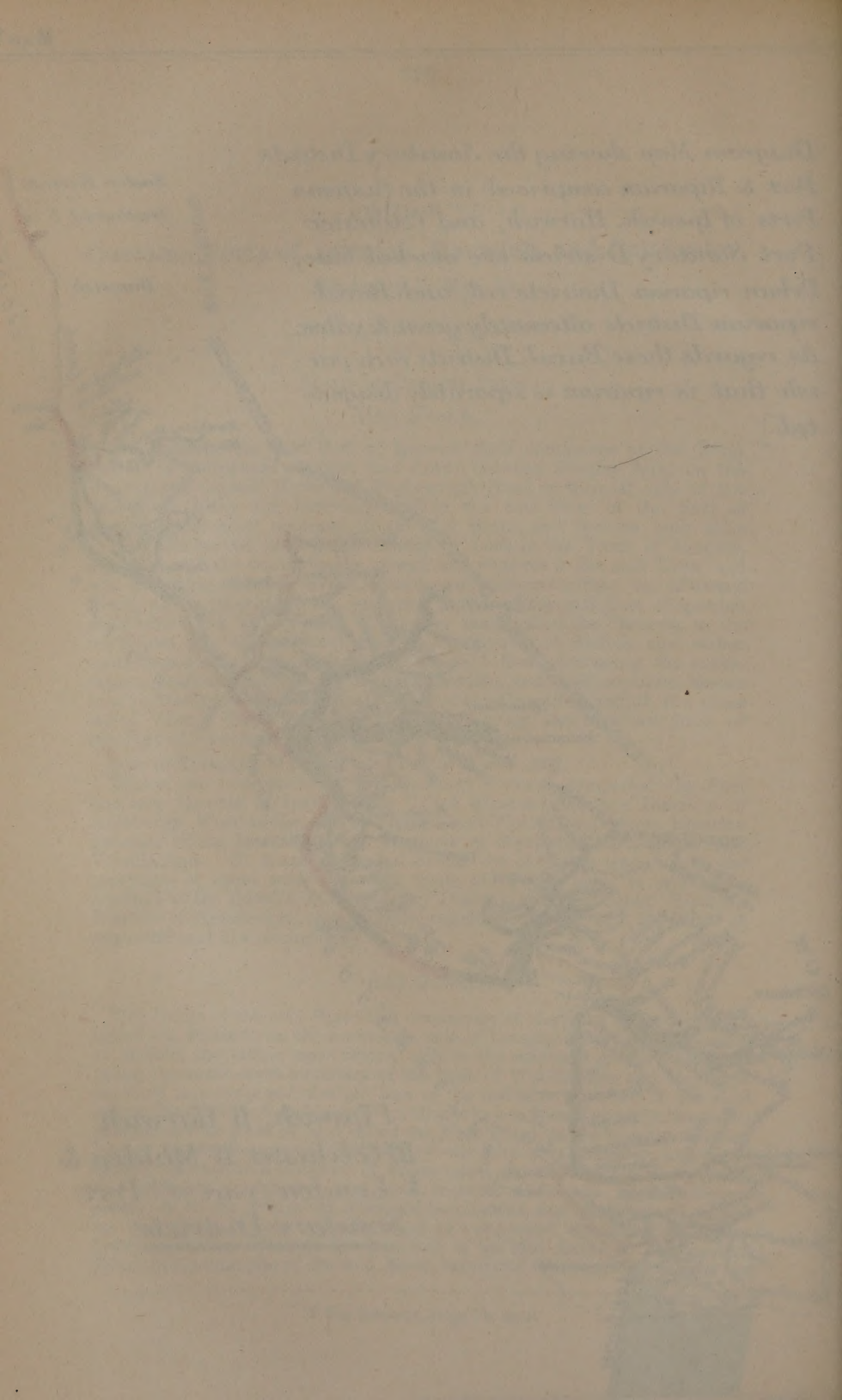
* See footnote, page 78, *ante*.

Diagram Map showing the Sanitary Districts Port & Riparian comprised in the Customs Ports of Ipswich, Harwich, and Colchester. [Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural Districts each par-ish that is riparian is separately designa-ted.]



I Ipswich, II Harwich
III Colchester IV Maldon &
V London (part of) Port
Sanitary Districts.

Wyman & Sons, Ltd, Lith, 6297.8.94



Port of Ipswich, and up the River Stour on both sides to the town of Manningtree.

Date of Treasury Warrant, 29th day of August 1878.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Harwich, the Urban Riparian Sanitary District of Walton-on-the-Naze, and certain Riparian Parishes in the Rural Sanitary District of Tendring. For an account of these several districts see pages 216, 222, and 224.

(21.) *Colchester.*

The limits of the said Port of Colchester shall commence at the Naze Point, in the County of Essex (being the southern limit of the Port of Harwich), and shall extend from thence along the coast of the County of Essex to the Land's End at Warden Point, in the Isle of Sheppey, in the County of Kent (the said line being the eastern boundary of the Port of London), and shall extend seawardly from the coast within the aforesaid limits to a distance of three miles from low-water mark, and shall include all bays, channels, roads, bars, islands, harbours, havens, rivers, streams, creeks, and places within the said limits contained, except the Islands in Havengore Creek, called Potton and Rushly Islands, and so much of the said Creek and the watercourse that extends from it to the Town of Rochford, and which are in the Port of London.

Date of Treasury Warrant, 7th day of September 1883.

Within the boundaries of this Customs Port are comprised the Port Sanitary Districts of Colchester and of Maldon, the Urban Riparian Sanitary Districts of Great Clacton, and certain Riparian Parishes of the Rural Sanitary Districts of Tendring, Lexden-and-Winstree, Maldon, and Rochford. Shipping trade is practically confined to the two Port Sanitary Districts of Colchester and Maldon, the Great Clacton Urban Riparian District, and certain parishes in the Tendring and in the Lexden-and-Winstree Rural District, and reports with regard to each of these districts will be found at pages 230, 240, 227, 224, and 237.

Ipswich Port Sanitary District.

[Ipswich Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* March 10th, 1893.

Date of Order *permanently* constituting Port Sanitary District: May 21st, 1892.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is the "Mayor, Aldermen, and "Burgesses of the said Borough of Ipswich acting by the "Council."

It exercises Port functions in waters abutting upon the Ipswich Urban Sanitary District and upon the Woodbridge and Samford Rural Sanitary Districts.

2. *Limits of Jurisdiction :—*

"So much of the River Orwell as lies between a straight line drawn between Shotley Point on the west side of the said river, and Fagborough Head on the east side of the said river, being the boundary limit in the said river of the Port of Harwich, and a certain lock called Handford Lock, in the Town of Ipswich ; together with the waters,"* &c.

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Ipswich Urban Sanitary District, the whole of.

Samford Rural „ „ Parishes :—Wherstead, Freston, Woolverstone, Chelmondiston (part of), Shotley (part of).

Woodbridge Rural Sanitary District. Parishes :—Trimley St. Mary, Trimley St. Martin (part of), Stratton Hall, Levington, Nacton, Alnesbourn Priory.

4. *Apportionment of Expenses :—*

Wholly borne by the Ipswich Urban Sanitary Authority.

5. *General Character and Efficiency of Administration :—*

Indifferent.

The Ipswich Town Council apparently fails to realise its position as a "Port" Sanitary Authority apart from its duty as an Urban Sanitary Authority.

6. *Ports from whence ships arrive :—*

(Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign :—*Antwerp*, *Groningen*, *Rotterdam*, Stockholm, Guernsey, Konigsberg.

Coastwise :—*London*, Seaham, Sunderland, Newcastle, Hartlepool.

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* See footnote page 89, *ante*.

7. *Character of Trade:—*

(Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

FOREIGN.—*Imports.* Grain, phosphate of lime, wood, oilseed cake, stone, and general merchandise.

Exports.—Artificial manure, pitch, burnt ore, and agricultural instruments.

COASTWISE.—*Imports.* Grain, coal, linseed, oilcake, granite, cement.

Exports.—Grain, malt, artificial manure, oil, iron, machinery.

No rag trade. But few passengers; no immigrants and transmigrants.

8. *Amount of Shipping Inwards during three years*, 1890–91–92:—

Class of Vessels.		1890.		1891.		1892.	
		No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Foreign	Steamers	57	28,579	50	19,820	37	19,531
	Sailing	103	17,916	130	19,288	155	21,350
	Fishing	—	—	—	—	—	—
Total Foreign		160	46,495	180	39,108	192	41,881
Coastwise	Steamers	1,542	128,301	1,605	11,995	1,601	121,061
	Sailing	1,824	103,086	1,777	101,906	1,818	103,068
	Fishing	—	—	—	—	—	—
Total Coastwise		3,366	231,387	3,382	221,901	3,419	224,129

9. *Inland Water Communication:—*

A Canal to Stowmarket (Navigation Trust).

The Canal runs through the Samford, Boswell and Claydon, and Stow Rural Sanitary Districts and Stow Urban Sanitary District. It is 12 miles long, but practically the navigation ceases at Branford (three miles) beyond which place it is not kept weeded, &c.

Manure is carried up, and occasionally hay, &c., brought down.

10. *Lines of Railway conveying Goods from Port:—*

The Great Eastern Railway.

The Felixstowe branch of the Great Eastern Railway runs near the north bank of the river.

11. *Medical Officer of Health:* G. S. Elliston.

Qualifications:—M.R.C.S., L.S.A. Salary: There is no payment for the Port Sanitary District by itself. A salary of 25*l.* per annum is paid to Mr. Elliston as the Urban Medical Officer of Health, and he is told that this sum covers any work he may do in the Port. Mr. Elliston also acts as Medical Officer of Health to the Ipswich Urban Sanitary Authority and to the Ipswich, Samford, and Bosmere and Claydon Rural Sanitary Authorities.

Character and efficiency of work done by Medical Officer of Health:—

The Port Medical Officer of Health is an energetic officer:—In 1892, he inspected all persons coming from "infected" ports. He keeps an account of the work done. He does not as a rule inspect vessels for "nuisances," and is not sufficiently supported in his port work by the Port Inspector of Nuisances.

The Port Medical Officer of Health for Harwich has been appointed Deputy Port Medical Officer of Health for Ipswich.

When called upon by the Customs, this gentleman boards, at Harwich, vessels bound for Ipswich, and inspects the passengers and crews. In the event of his finding sickness of an infectious nature, he remains on board the vessel and goes up with it to Butterman's Bay, where he is relieved by the Port Medical Officer of Health for Ipswich.

For this duty he receives payment at the rate of 5 guineas for each journey to Butterman's Bay; but should he be called by the Customs unnecessarily, he receives a fee of 2½ guineas.

12. *Inspector of Nuisances:* George Moss.

No sanitary certificate. Salary £144* without repayment. Mr. Moss also holds the appointment of Inspector of Nuisances to the Ipswich Urban and Rural Sanitary District, and is Superintendent of the Refuse Removal Department.

Character and efficiency of work done by Inspector of Nuisances:—Inefficient.

13. *Nuisances:*—Practically never dealt with.

14. *Isolation Hospital:*—

The Port Sanitary Authority has the use of the Ipswich Urban Hospital for Infectious Diseases, which is situated on the confines of the town, about 1½ miles from the Town Hall, but more, by road, from the river. It was erected in 1880, and has 24 beds ready for use. This hospital belongs to the Corporation of Ipswich, who by virtue of its double office as the Urban Sanitary Authority and Port Sanitary Authority grant the use of the hospital to the Port.

The accommodation at the time of inspection was about to be increased by 12 beds, and a loan had been applied for to build a New Block. It is supplied with water from the Corporation mains. It is drained by sub-irrigation to land. Excrement would be disinfected and buried.

When patients are landed at Levington Creek, they are in the Woodbridge Rural Sanitary District. Patients are driven into Ipswich, about 7 miles through the district of the Woodbridge Rural Sanitary Authority.

The Ambulance of the Ipswich Town Council is an old brougham, fitted inside with polished pine wood and cushions, covered with American cloth. Arrangement is made for the patient to put his legs up, but it would be impossible for a patient of ordinary height to lay at full length.

15. *Disinfecting Apparatus:*—

The disinfecting apparatus is a Goddard and Massey's Dry Heat apparatus. At the time of inspection it had been in use for seven years, and was out of repair. The temperature can be raised to 250°. It stands in the centre of the town, in the yard of the "Paving and Lights" Committee. This Committee had prior to the date of the Inspector's visit given notice that they would require the ground on which the

* The salary mentioned covers the whole of the work done by Mr. Moss. There is no special payment for Port Work.

building stands in a year's time. A large number of workmen are employed in this yard, which is about five minutes' walk from the Town Hall, and about 300 yards "as the crow flies" from the river.

16. *Mortuary :—*

There is a mortuary at the hospital for infectious diseases. It is built of brick and divided into two compartments.

There is another mortuary at the cemetery, and the Urban Sanitary Authority has a mortuary in the town.

17. *Regulations under Section* 125, *Public Health Act,* 1875 :—

None made.

18. *Infectious Diseas (Notification) Act,* 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The "Quarantine Questions" are put by the Customs on the arrival of a ship from "Foreign" at Ipswich. The Custom House Officers are not on duty day and night, being only on duty at night when the tide serves. There are three "hards" in the Orwell where barges can unload—at Levington Creek, Pier Mill, and Redgate, and there is a Private Quay leased to Mr. Berners at Shumpy Lane. The Customs board coasters only occasionally.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Chief Officer of Customs, is the Sub-Commissioner of Pilotage. The pilots give notice of sickness to the Custom House Officer at Harwich. The vessels are then boarded by the Deputy Port Medical Officer of Health at Harwich, who accompanies the vessel to Butterman's Bay.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Custom House Officer at Harwich telegraphs to the Custom House Officer at Ipswich that a vessel ("infected" or from "infected port") is coming up the River. The Custom House Officer at Ipswich sends special messenger to the Port Medical Officer of Health. If the vessel be "infected" the Deputy Port Medical Officer of Health (Dr. Gurney) comes up on board the vessel from Harwich and remains on board until relieved by Port Medical Officer of Health for Ipswich.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

Port Medical Officer of Health would hire a boat. In the year 1892 he made use of a steam launch, which, however, constantly "broke down" when in use.

e. Mooring Station:—

Situated off the "Levington Creek" just below Butterman's Bay. Is fairly convenient for landing patients and for vessels to be moored. The river is at its broadest at this point.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health has inspected all vessels whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected ports"):—

The Port Medical Officer of Health has inspected all persons on vessels "infected" or from "infected ports."

h. Address Book:—

No regular address book kept, but the Port Medical Officer of Health has kept the addresses of persons leaving the ships.

i. Special Isolation Provision for Cholera:—

The Port Sanitary Authority stated that it would use the Town Hospital for Infectious Disease.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

The Port Medical Officer of Health stated that he would remove "suspected persons" to the Town Hospital for Infectious Disease.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

To shore in ship's boat. From Levington Creek to Hospital for Infectious Disease in ambulance.

The Authority possesses a stretcher.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) The Port Medical Officer of Health would burn clothes.

(*b.*) The Port Medical Officer of Health would fumigate ship with sulphur; scrub woodwork with chloride of lime and carbolic soap, and afterwards paint or limewash.

(*c.*) No arrangement for disinfecting goods.

n. Arrangements made as to the Disposal of the Dead:—

If a patient died at sea or on board ship, the Port Sanitary Authority would bury the corpse at sea; if a patient died on land, would bury in the cemetery.

o. Action as to Water Supply of Vessels from Infected Ports:—

The Port Sanitary Authority would order water to be pumped out, and would pay for a fresh supply of water for the vessels.

p. Action as to Bilges of Vessels from Infected Ports:—

The bilge water would be pumped out and disinfected with corrosive sublimate or carbolic acid solution.

Final Conference with the Ipswich Port Sanitary was held on April 13th 1894, when formal recommendations were made with regard to the following matters :—

1. The appointment of a Port Inspector of Nuisances to devote his whole time to the duties of his office.
2. The provision of an efficient disinfecting apparatus.
3. The adoption of the Infectious Disease (Notification) Act, 1889.
4. The provision of proper and sufficient hospital accommodation for the isolation of cases of infectious disease brought to or occurring within the Port.
4. The necessity for the regular and thorough supervision of all vessels entering the Port, with a view to the abatement of nuisances and the unwholesome conditions generally, and that steps be taken beforehand to secure, in case of need, the medical inspection by night as well as by day of all vessels entering the Port, whether coming "coastwise," or from "foreign."

Action taken by the Port Sanitary Authority since Inspection.

"The Port Sanitary Authority have arranged for the regular super-"vision of all vessels entering the Port," and "have ordered a floating "hospital to be built." (Letter from the Clerk dated 11th July 1893.)

"Floating hospital completed and all arrangements made for the "reception and treatment of patients." . . . . "have voted the "Medical Officer of Health 20*l.* addition to his salary and" . . . . "that he, with the Inspector of Nuisances, and an Assistant Inspector "recently appointed will do all that is required for the safety of this "District." (Letter from the Clerk dated 13th September 1893.)

On 10th October 1893, Dr. Reece revisited the Ipswich Port Sanitary District to confer with the Officers of the Port Sanitary Authority. He then recommended :—

That the medical inspection of the crews of vessels from infected ports should be carried out in a more thorough and efficient manner than had hitherto been the case.

That the Infectious Disease (Notification) Act, 1889, be adopted.

That a reliable and efficient disinfecting apparatus be provided.

During the year 1894 there entered the Port of Ipswich 174 vessels from foreign and 2331 coastwise vessels. The Port Inspector of Nuisances inspected 10 vessels (?) during the year. [Annual Report of the Port Medical Officer of Health for 1894.]

ALDEBURGH URBAN RIPARIAN SANITARY DISTRICT.

[Ipswich Customs Port (part of).]

Inspector: Dr. S. M. Copeman. *Date of Inspection:* April 26th, 1893.

This Riparian District is under the jurisdiction of the Town Council of the Borough of Aldeburgh. The coastline is limited to the sea front of the town and parish of Aldeburgh.

Shipping Trade:—

FOREIGN.—Occasional yachts only.

COASTWISE. — *London*, Sunderland, River Tyne, Hartlepool, Hull, Grimsby, Rochester, Harwich, and Ipswich.

Imports.—Timber, coal, &c.

Exports.—None.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	—	—	—	—	—	—
	Sailing	—	—	1	1,045	1	22
	Fishing	—	—	—	—	2	60
Total Foreign		—	—	1	1,045	3	82
Coastwise	Steamers	39	671	38	639	47	784
	Sailing	170	8,878	160	7,977	136	6,782
	Fishing	44	1,888	47	1,899	39	1,590
Total Coastwise		252	11,437	245	10,515	222	9,156

Goods are conveyed from this Riparian District by the Great Eastern Railway.

Chief Facts reported as regards Administration.—Neither the Urban Medical Officer of Health (Richard B. Wrightston, M.D.), nor the Urban Inspector of Nuisances (Arthur G. Ward) had, prior to the inspection, exercised any riparian functions.

The Sanitary Authority does not possess either any hospital accommodation or disinfecting apparatus. A small mortuary has been provided. The Infectious Disease (Notification) Act, 1889 has not been adopted, nor have any regulations under section 125 of the Public Health Act, 1875, been drawn up.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDER.

a. Customs Boarding Station or Stations.—Shingle Street, at the entrance to the haven.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguards, and by Pilots.—Pilots are not licensed, but have orders from the Customs not to leave possibly "infected" vessels until the arrival of the Medical Officer of Health.

c. Arrangements for Communications between Officials detaining Vessels and Medical Officer of Health.—The Medical Officer of Health of the Plomesgate Rural Sanitary District, living at Wickham Market, would be telegraphed for, the mouth of the river being in his district.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—The Coastguard would take the Medical Officer of Health out to vessel from Orford. He would, however, have a ten-mile drive first.

e. Mooring Station.—No definite mooring station had been appointed at the date of inspection.

f. Inspection of Vessels ("infected" or from "infected port").—No arrangement made prior to Inspector's visit.

g. Examination of Persons on Vessels ("infected" or from "infected port").—No arrangements made prior to Inspector's visit.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made.

l. Means provided for transfer of infected Persons from Ship to Hospital.—None.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods.—None.

n. Arrangements as to the disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—None.

p. Action as to Bilges of Vessels from Infected Ports.—None.

Final Conference with the Aldeburgh Urban Riparian Sanitary Authority was held on October 10th, 1893, when formal recommendations were made with regard to:—

1. Hospital provision.
2. The duties and obligations devolving upon the Sanitary Authority under the Cholera Order and Regulations of the Local Government Board.

Action taken by the Urban Riparian Sanitary Authority since Inspection.

The Aldeburgh Urban Sanitary Authority have made further attempts to obtain a site for an Isolation Hospital, but up to the present, without result. [Letter from Town Clerk, June 22nd, 1894.]

Harwich Port Sanitary District.

[Harwich Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* March 7th, 1893.

Date of Order *permanently* constituting Port Sanitary District: May 7th, 1881, amended May 31st, 1889.

1. *Constitution of Port Sanitary Authority:—*

The Harwich Port Sanitary Authority is a Joint Board termed the "Harwich Port Sanitary Authority," and consists of fifteen members composed of representatives of the following Sanitary Authorities:—

Harwich Urban Sanitary Authority - -	6 members.
Samford Rural „ - -	3 „
Tendring „ „ - -	3 „
Felixstowe and Walton Urban Sanitary Authority - - - - -	2 „
Woodbridge Rural Sanitary Authority -	1 „

The Board exercises port functions in waters abutting upon the above-named Sanitary Districts.

2. *Limits of Jurisdiction:—*

"For so much of the Port of Harwich as lies within an imaginary straight line drawn from Languard Point to the southern boundary of the Borough of Harwich, on the sea shore; together with the waters,* &c."

These limits are apparently satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

The Borough of Harwich.

Felixstowe and Walton Urban Sanitary District.

Samford Rural Sanitary District. Parishes:—Erwarton, Brantham, Harkstead, Holbrook, Shotley (part of), and Stutton.

Tendring Rural Sanitary District. Parishes:—Bradfield, Manningtree, Mistley, Ramsey (part of), and Wrabness.

Woodbridge Rural Sanitary District. Parish:—Trimley St. Martin (part of).

4. *Apportionment of Expenses:—*

The constituent Riparian Authorities contribute towards the expenses of the Port Sanitary Authority in the following proportions:—

Harwich Urban Sanitary Authority in proportion to the rateable value of the district.

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* See footnote, page 89, *ante*.

Felixstowe and Walton Urban Sanitary Authority in proportion to half the rateable value of the district.

Samford, Tendring, and Woodbridge Rural Sanitary Authorities in proportion to one-half the rateable value of the parishes which abut upon the Port Sanitary District.

5. *General Character and Efficiency of Administration :—*

Indifferent.

This Authority on the whole fails to realise the responsibility of its position. There is no sanitary inspection of vessels running into the Port.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign.—*Hamburg*, *Antwerp*, *Rotterdam*, and *Esbjerg*, vessels run regularly to these Ports. Occasional vessels from Pensacola (South America), St. Valene, Ostende, and the Baltic Ports.

Coastwise.—*London* (coke, manure, &c.), *Newcastle*, *Sunderland*, and *Cardiff* (for coal), Ipswich, Colchester, Hull, Maldon, Southampton, Rochester, &c.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports.—Foreign: General merchandise, fruit, vegetables, eggs, horses. Coastwise: Coal, timber, manure.

Exports.—Foreign: Manufactured goods, wool (unmanufactured), cement, dead horses. Coastwise: Hay, straw, beans.

Practically no rags. Passengers principally from Antwerp and Rotterdam, Sweden and Norway.

There have been a few immigrants and transmigrants, but the traffic had, at the time of inspection, practically ceased for the season.

8. *Amount of Shipping Inwards during three years*, 1890-91-92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	1,241	583,397	1,061	515,651	1,163	646,848
	Sailing	40	7,621	28	5,680	31	5,822
	Fishing	—	—	—	—	—	—
Total Foreign		1,281	591,018	1,089	521,331	1,194	652,670
Coastwise.	Steamers	2,297	169,397	2,059	167,106	2,500	176,809
	Sailing						
	Fishing	—	—	—	—	—	—
		2,297	169,397	2,059	167,106	2,500	176,809

9. *Inland Water Communication :—*

River Stour navigable to Manningtree, where there is a lock; this portion of the river is under the jurisdiction of the Harwich Port Sanitary Authority.

River Orwell navigable to Ipswich, under the jurisdiction of the Ipswich Port Sanitary Authority.

10. *Lines of Railway conveying Goods from Port :—*

"The Harwich branch" of the Great Eastern Railway, which joins the main line at Manningtree.

11. *Medical Officer of Health :* Harold Gurney.

Qualifications :—L.R.C.P., L.R.C.S., L.F.P.S. Glasg. Salary, 15*l.* per annum ; without repayment. Also acts as Medical Officer of Health for the Harwich Urban Sanitary District, and as Deputy Port Medical Officer of Health for Ipswich.

Character and efficiency of work done by Medical Officer of Health :—The Port Medical Officer of Health will, if sent for, inspect a vessel, but as the Inspector of Nuisances is practically non-existent, the Port Medical Officer of Health is never sent for, except by the Customs, and that rarely. He appears willing to carry out his work but is not well acquainted with the duties of his office and has had no special training in sanitary science.

12. *Inspector of Nuisances :* Benjamin Dale.

No sanitary certificate. Salary, 12*s.* per week; without repayment. Also acts as caretaker on the floating hospital.

Character and efficiency of work done by Inspector of Nuisances :—

He is elderly, slightly deaf, and is apparently unfitted to be a Port Inspector of Nuisances.

He never inspects a vessel, and the Port Sanitary Authority apparently never expect him to do so.

13. *Nuisances :—*

Nuisances on board ship have not hitherto been dealt with.

14. *Isolation Hospital :—*

The Floating Hospital is an old barge with a wooden superstructure. This barge was acquired by the Port Sanitary Authority in 1884. It is moored between Harwich and Parkeston, at a distance of about half a mile from Harwich. It has two wards, one a small one, unfurnished at the date of inspection, the other and larger fitted with two beds. The Port Sanitary Authority think three or four beds could be placed in this ward. The smaller ward was stated to be for "women." The patient would be moved to hospital in the Port Sanitary Authority's own boat. During 1892 a boatman was engaged by the Authority, and two others in addition were "retained" in case of need. There is no ability to extend accommodation. Water, obtained from the Harwich Water Company's mains, has to be brought from Harwich in casks. Excrement would be disinfected and thrown overboard. There is no laundry. The Hospital floats three hours before the "top of the flood" and three hours after, so that half the time it rests on the mud and is inaccessible.

The Hospital shows sign of age, and wear and tear.

15. *Disinfecting Apparatus :—*

None provided.

16. *Mortuary :—*

None provided.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889.

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The legal "Boarding" Station at Harwich is situate on a straight line between Walton Ferry and Harwich Lighthouse, near the "Guard Buoy." At the time of inspection vessels from Hamburg, and during 1892 all vessels from "infected ports" were brought to, at this spot and questions as to the health of the passengers and crews asked by the Customs. Otherwise the steamers of the Great Eastern Railway and the regular boats run straight on to Parkeston, where the questions are put from the quay, before the vessel is allowed to come alongside. There are three principal places of debarkation—the quays at Harwich, Parkeston and Felixstowe. There is also a quay at Mistley, and a new quay is in course of construction at Shotley. All coasters are boarded by the Customs at some period of their stay, not necessarily on arrival. The procedure is the same by day and night. Coasters can be run upon the shore, and this is done almost anywhere in the Port.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The pilots are under a sub-commission of the Trinity Board, London. There are four licensed pilots. The Masters of the Great Eastern Railway Company also as a rule hold pilot certificates.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Customs would send a special messenger to the Port Medical Officer of Health.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

By boat belonging to the Port Sanitary Authority or by boat belonging to the Customs authorities.

e. Mooring Station :—

The mooring station is situated as follows :—

"The portion of Harwich Harbour next to Shotley and lying between Shotley Gate and the entrance of the River Orwell."

This mooring station is satisfactory.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health at the time of inspection did not inspect vessels unless sent for by the Customs.

In 1892, during the prevalence of cholera, all vessels "infected" or from "infected ports" were inspected by the Deputy Port Medical Officer of Health, Mr. Stuart.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health would examine all persons on board vessels "infected" or from an "infected port."

h. Address Book:—

No address book kept regularly.

i. Special Isoltion Provision for Cholera:—

On board the floating hospital.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

The Port Medical Officer of Health would isolate such persons on board the hospital ship. But if the hospital already had patients on board he would isolate on board the "infected" vessel.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

The Port Sanitary Authority possess a boat and a stretcher.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods.—

(*a.*) The Port Medical Officer of Health stated that he would cause "infected" clothes to be burnt.

(*b.*) The Port Medical Officer of Health stated that he would disinfect a ship with sulphur fumigation, lime washing, and swabbing with corrosive sublimate solution (1 in 1,000).

(*c.*) There are no means of disinfecting goods.

n. Arrangements made as to the Disposal of the Dead:—

The Port Sanitary Authority would bury the dead at sea.

o. Action as to Water Supply of Vessels from Infected Ports:—

Water from an "infected port" is pumped out, and a fresh supply obtained from the Harwich Water Company's mains. The vessels pay for the water.

p. Action as to Bilges of Vessels from Infected Ports:—

The bilges are pumped out; but up to the period of inspection no bilges had been disinfected.

Final Conference with the Harwich Port Sanitary Authority was held on April 14th, 1893, when formal recommendations were made with regard to the following matters:—

1. The appointment of a Port Inspector of Nuisances to devote his whole time to the duties of his office.
2. The provision of an efficient hospital in place of the inadequate accommodation possessed by the Authority.
3. The provision of an efficient disinfecting apparatus.
4. The adoption of the Infectious Disease (Notification) Act, 1889.
5. The steps to be taken beforehand to secure, in the event of any marked extension of cholera in Europe, the medical inspection of all vessels entering the port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

A Port Inspector of Nuisances appointed, and a ship purchased to be fitted up as a hospital. [Letter from the Clerk, 11th May, 1893.]

The Infectious Disease, (Notification) Act, 1889, adopted. [Letter from the Clerk, 4th July, 1893.]

Regulations drawn up similar to such as would be drawn up under section 125, Public Health Act, 1875. (25th August 1893). The Regulations have not received the sanction of the Local Government Board, but are issued by the Port Inspector of Nuisances to the masters of vessels.

Dr. Reece re-visited the Harwich Port Sanitary District on September 23rd, 1893; on which date he ascertained—

1. That there was no medical inspection of passengers and crews of vessels from cholera-infected ports.
2. That no Deputy Port Medical Officer of Health had been appointed in 1893.
3. That the new hospital ship had not been fitted up.
4. That no steps had been taken to provide a disinfecting apparatus.

Dr. Reece recommended that—

1. Medical inspection should be carried out.
2. The new hospital ship be at once fitted up.
3. A disinfecting apparatus provided.
4. The Regulations mentioned above be submitted immediately to the Local Government Board for formal sanction.

From the Annual Reports for 1893 and 1894 of the Port Medical Officer of Health it would appear that none of the recommendations have been carried out.

WALTON-ON-THE-NAZE URBAN RIPARIAN SANITARY DISTRICT.

[Harwich and Colchester Customs Ports (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* March 9th, 1893.

This Riparian District is under the jurisdiction of the Walton-on-the-Naze Improvement Commissioners. The coastline of the district is conterminous with that of the parish of Walton-on-the-Naze.

Shipping Trade:—

FOREIGN.—None.

COASTWISE.—*London, Harwich, Ipswich,* Rochester, Sittingbourne, Newcastle, and Seaham.

Imports.—Bricks, manure, stone, coal, barley, and maize.

Exports.—Mangolds, straw, and vegetable produce.

Passengers arrive from London, Ipswich, and Harwich. No rag trade.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

	1890.		1891.		1892	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	—	—	—	—	—	—
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	—	—	—	—	—	—
Coastwise { Steamers	10	175	8	135	13	195
Coastwise { Sailing	219	6,649	226	7,728	174	6,991
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	229	6,824	234	7,863	187	7,186

The railway conveying goods from the Riparian District is the Great Eastern—Tendring Hundred Branch.

Chief Facts reported as regards Administration:—No riparian duties have hitherto been carried out either by the Urban Medical Officer of Health (A. S. Ivens, M.R.C.S., L.R.C.P.) or by the Urban Inspector of Nuisances (E. F. Harvey).

The Sanitary Authority does not possess any isolation hospital or disinfecting apparatus, but a mortuary has been provided.

The Infectious Disease (Notification) Act, 1889, came into operation in the district on January 1st, 1890. No regulations have been made by the Sanitary Authority under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—None.

There is no Customs Officer at Walton-on-the-Naze.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—The Coastguard would detain any vessel with suspicious sickness on board.

There is no vessel running into Walton with a crew of more than two hands, with the exception of a tug from Harwich.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—The Coastguard would write to the Medical Officer of Health, who lives at Thorpe, and send a special messenger to the Inspector of Nuisances.

The Assistant to Dr. Ivens (Medical Officer of Health) lives in Walton, and would be communicated with in an emergency.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—The Medical Officer of Health would drive or ride into Walton.

The Sanitary Authority has no boat; one would have to be hired. No difficulty is anticipated in this matter.

e. Mooring Station.—None fixed at the time of inspection.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would inspect any "infected" vessel or any vessel from an "infected port."

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would examine all persons on board such vessels.

h. Address Book.—None kept.

i. Special Isolation Provision for Cholera.—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—None.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods.—

(*a.*) The Urban Sanitary Authority is prepared to burn infected clothes and to compensate the owners.

(*b.*) The Medical Officer of Health stated that he would disinfect the ship by sulphur fumigation and by washing with sanitas.

(*c.*) There are no means for disinfecting goods.

n. Arrangements made for Interment of Dead.—None made.

The Chairman of the Urban Sanitary Authority is the Vicar, and he stated that he would be prepared to bury persons who had died of cholera in the churchyard.

o. Action as to Water Supply of Vessels from Infected Ports.—The Medical Officer of Health stated that he was prepared to act in this matter should occasion arise in accordance with the provisions of the Board's order.

p. Action as to Bilges of Vessels from Infected Ports.—The Medical Officer of Health stated that he would order the bilges to be pumped out and would disinfect with sanitas.

Final Conference with the Walton-on-the-Naze Urban Sanitary Authority was held on January 16th, 1894, when formal recommendations were made with regard to the following matters:—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisances and of unwholesome conditions generally.
2. The special duties and obligations devolving upon the Sanitary Authority under the Cholera Regulations of the Local Government Board.

Action taken by the Urban (Riparian) Sanitary Authority since Inspection.

In a letter from the Clerk, dated 9th March 1894, it is stated that the Sanitary Authority had resolved to carry out the recommendations made by the Inspector at the Final Conference.

Tendring Rural Riparian Sanitary District.

[Harwich (part of) and Colchester (part of) Customs Ports.]

Inspector: Dr. R. J. Reece. *Date of Inspection:* March 27th, 1893.

This Riparian District is under the jurisdiction of the Tendring Rural Sanitary Authority. The coastline of the district extends from the southern limit of Dovercourt to the entrance of the Hamford Water, it then borders the Hamford Water inland to the Walton-on-the-Naze Urban District. From the southern limit of Walton-on-the-Naze the coastline extends to the northern boundary of the Great Clacton Urban Sanitary District. And from the southern boundary of Great Clacton to Colne Point when it adjoins the Colchester Port Sanitary District. It comprises the following Riparian parishes:—Dovercourt, (on sea coast), Ramsey, (part of), Little Oakley, Great Oakley, Beaumont with Moze, Thorpe le Soken and Kirby le Soken (on Hamford Water), Frinton, Great Holland and Little Holland (on the sea coast north of Great Clacton), and St. Osyth (part of) on the sea coast, south of Great Clacton Urban Sanitary District.

The parishes of Bradfield, Manningtree, Mistley, Ramsey (part of), and Wrabness are included in the Harwich Port Sanitary District and the parishes of Alresford, Brightlingsea, Elmstead, Thorrington and Saint Osyth (part of) are included in the Colchester Port Sanitary District.

Shipping Trade:—There is no foreign trade, but there is some coastwise traffic at Oakley, Beaumont, Landamere and Kirby. On the coast also between Walton-on-the-Naze and Great Clacton, and between Great Clacton and Colne Point, barges are beached at high water and are unloaded into carts which are driven alongside at low water. Trade chiefly with *London, Maidstone,* and *West Hartlepool.*

Imports.—Coal, coke, manure, chalk, and stones for road-making.

Exports.—Straw, hay, roots, and farm produce.

Amount of Shipping Inwards during three years, 1890–91–92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign — Steamers	—	—	—	—	—	—
Foreign — Sailing	—	—	—	—	—	—
Foreign — Fishing	—	—	—	—	—	—
Total Foreign	—	—	—	—	—	—
Coastwise — Steamers	10	165	8	135	13	195
Coastwise — Sailing	107	3,866	122	4,448	95	3,470
Coastwise — Fishing	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
Total Coastwise	117	4,031	130	4,583	108	3,665

There is no line of railway running nearer than two miles to any of the places of debarkation in this Riparian District except near Kirby. There is inland water communication by means of the River Stour, by the Hamford Water and by the River Colne.

Chief Facts reported as regards Administration:—The Rural Medical Officer of Health (John Will Cook, M.D.) who also acts as Medical Officer of Health for the Great Clacton Urban and for the Lexden and Winstree Rural Sanitary Districts is acquainted with the Cholera Regulations, and is prepared to carry them out. The Rural Inspector of Nuisances (Robert Tomlinson Stewart) had not, prior to the date of inspection, carried out any inspection of vessels under the Public Health Acts.

The Sanitary Authority had, prior to the date of inspection, purchased three Radcliffe marquees, capable of holding four beds in each, and a bell tent for the attendant, together with all necessary furniture, &c. These tents in the event of an emergency, the Authority proposed to pitch on a site obtained for the purpose situate near the village of Parkeston. The ground had been prepared, the land drained, and water laid on from the Tendring Hundred Water Works. It was proposed to pass excrement, &c., into a cesspool, and after disinfection to use it on neighbouring land.

No stretcher, ambulance, disinfecting apparatus, or mortuary had been provided. The Infectious Disease (Notification) Act, 1889, was adopted on January 1st, 1890. No regulations made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

There is no Customs Boarding Station. The Coastguard have a floating barge at the entrance of the Hamford Water. The crew is supplied from the Coastguard station at Walton-on-the-Naze.

There are four landing stages on the Hamford Water within the jurisdiction of the Tendring Port Sanitary Authority.

1. At Oakley, the "Oakley Hard," situate not far from Great Oakley Hall. It is left dry at low water, and is only used for barges bringing manure, and stones for roads, and chalk to Oakley, and carrying away straw, hay and farm produce. It consists of wooden piles driven into the mud supported by stones and chalk, which thus form a "hard" on to which carts can be taken to the sides of the barge.
2. The Quay at Beaumont is of better construction. A cutting has been made from Hamford Water, called Beaumont Creek, up this creek barges come to a stone quay. There are store houses here, and barns, and the place has the appearance of prosperity. Barges bring manure, chalk, stones, and coal and coke, and take away farm produce, principally straw.
3. Landamere Quay, or Hard, is a quay constructed on piles. Near it there is a row of seven to eight cottages, also a detached public house, a barn or two, and some store houses. At the time of inspection there were two small yachts lying here and some six to eight flat-bottomed boats, or punts. The barns are old and falling to pieces. The trade is in the hands of one man.
4. Kirby Quay is a "hard" constructed on piles, and is very much out of repair. There is a barn built principally of wood, and a cottage inhabited by the man who looks after the quay, and acts as pilot to barges coming up, and who keeps an account of all barges which unload at the quay.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

There is apparently no definite arrangement.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

None made.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

The Medical Officer of Health lives at Colchester. He would have to come into the district to the nearest railway station and then drive. No means are provided for his conveyance by the Riparian Sanitary Authority.

e. Mooring Station :—

None selected.

f. Inspection of Vessels ("infected" or from "infected port"):—
There had, up to the time of inspection, been no vessels "infected" or from "infected ports" arriving in the district. The Medical Officer of Health stated that he would inspect any such vessels on their arrival being notified to him.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—
The Medical Officer of Health stated that he would examine all persons on board.

h. Address Book:—
The Medical Officer of Health would keep an address book.

i. Special Isolation Provisions for Cholera:—
No means provided. The hospital tents excepted.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—
The Medical Officer of Health stated that he would detain any suspected person on board the ship until the hospital tents were pitched. This would take a day.

l. Means provided for transfer of Infected Persons from Ship to Hospital:—
None provided.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods:—
The Medical Officer of Health stated that he would burn clothes, and disinfect the vessel with sulphur fumigation, and washing with solution of corrosive sublimate or of carbolic acid.
There are no means for the disinfection of goods.

n. Arrangements as to the disposal of the Dead:—
No arrangements had been made for the disposal of the dead. The Clerk and Medical Officer of Health anticipated no difficulty.

o. Action as to Water Supply of Vessels from Infected Ports:—
The Medical Officer of Health stated that he would have water tanks pumped out and washed with Condy's fluid, but admitted that at most places (Little and Great Oakley, Beaumont, and Landamere) this would be impracticable, as there would be no no means of replacing the water. Practically it could only be done at Kirby.

p. Action as to Bilges of Vessels from Infected Ports.
The Medical Officer of Health stated that he would have bilges pumped out and disinfected with Condy's fluid.

Final Conference with the Tendring Riparian Sanitary Authority was held on August 22nd 1894, when formal recommendations with regard to the following matters were given:—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisances and of unwholesome conditions generally.
2. The special duties and obligations devolving upon the Sanitary Authority under the Cholera Orders and Regulations of the Local Government Board.

Action taken by the Rural Riparian Sanitary Authority since Inspection.

At the Final Conference with the Tendring Rural Sanitary Authority on August 22nd, 1894, the Inspector (Dr. Reece) learnt that since his inspection of the District, the Inspector of Nuisances had regularly inspected all vessels entering the District.

GREAT CLACTON URBAN RIPARIAN SANITARY DISTRICT.

[Colchester Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* March 3rd, 1893.

This Riparian District is under the jurisdiction of the Local Board of the District of Great Clacton. The coastline of the district is conterminous with that of the parish of Great Clacton.

Shipping Trade:—

FOREIGN.—None.

COASTWISE.—London, Ipswich, Harwich, Sittingbourne, Milton, Rochester, and Maidstone.

Imports.—Bricks, stone, chalk, and London manure.

Many passengers, most of whom return the same day, arrive during the summer months in pleasure steamers from London, Ipswich, and Harwich, and the repeated trips of these steamers (three from London and one from Ipswich and Harwich) practically make up the whole total of steamers shown in the return below. The sailing vessels consist of barges carrying cargoes from London, Sittingbourne, Milton, Rochester, and Maidstone. No rag trade.

Exports.—None.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890–91–92.

		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	Nil.	Nil.	Nil.	Nil.	Nil.	Nil.
	Sailing						
	Fishing	—	—	—	—	—	—
Total Foreign		—	—	—	—	—	—
Coastwise	Steamers	168	18,285	205	26,436	269	29,352
	Sailing	20	981	44	2,264	50	2,488
	Fishing	Nil.	—	—	—	—	—
Total Coastwise		188	19,266	249	28,700	319	31,840

The railway conveying goods from this Riparian District is the Tendring Hundred branch of the Great Eastern Railway. There is no inland water communication.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (John Will Cook, M.D.), who also acts as Medical Officer of Health for the Tendring and the Lexden and Winstree Rural Sanitary Districts, is acquainted with the Cholera Regulations and prepared to carry them out. The Urban Inspector of Nuisances (Arthur Richard Robinson) had not prior to the Inspector's visit carried out any inspection of vessels under the Public Health Acts.

The Urban Sanitary Authority had not at the time of inspection provided any isolation hospital or any disinfecting apparatus or mortuary. It had, however, recently addressed a communication to the Board with reference to a loan for the erection of a hospital. In the meantime

it had obtained the use of four shepherds' huts in which it was proposed to isolate cholera patients in case of need.

The Infectious Disease (Notification) Act, 1889, came into force in the district in January 1891, prior to the formation of the Urban Sanitary Authority, but it had not been re-adopted by that authority at the date of inspection, neither had any regulations been drawn up under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—There is no Customs Boarding Station or Customs Officer at Clacton. The Coastguard act for the Customs. The Chief Officer, who is in charge, works for Customs Revenue purposes under the Collector of Customs at Colchester. He does not hold a "Quarantine Certificate" and is therefore not legally qualified to ask the quarantine questions and to examine the masters of vessels upon oath.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots.—The Chief Officer of Coastguard would detain any vessel coming from an "infected port," or a coaster having sickness no board, and would communicate with the Urban Sanitary Authority at Clacton and the Medical Officer of Health at Colchester by telegraph.

In rough weather vessels would have to run to Harwich or Brightlinsea. The vessels coming in do not carry pilots.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—The Coastguard would telegraph to the Medical Officer of Health who lives at Colchester.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—Rail from Colchester. At night, driving by road. The Urban Sanitary Authority have no boat, but anticipate no difficulty in hiring one if occasion requires.

e. Mooring Station.—Not fixed at the time of inspection.

f. Inspection of Vessels ("infected" or from "infected port").—There have been no "infected" vessels or vessels from "infected ports." The Medical Officer of Health and Inspector of Nuisances are prepared to act if required.

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health would examine all persons on board in each case, if occasion occurred.

h. Address Book.—Not kept. Would keep one if necessary.

i. Special Isolation Provision for Cholera.—There are four farmers in the neighbourhood who have agreed to lend to the Sanitary Authority four movable "shepherds' huts" (small wooden huts on wheels, fitted with fireplaces, &c.). Should an emergency arise, these huts can be drawn by horses to such spot as may be convenient. Arrangements have been made in town to supply bedding, &c., at a moment's notice.

It is intended to use these until the proposed new hospital is finished.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—*Vide* paragraph above.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—None as regards transport by water. There is however a "wheel ambulance."

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods.—

(*a.*) Clothes would be burnt.

(*b.*) The arrangements made to disinfect a ship are fumigation by burning sulphur, washing down with carbolic and permanganate of potash solutions.

(*c.*) No arrangements for disinfecting goods.

n. Arrangements made as to the disposal of the dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—Not yet dealt with, no occasion having arisen. The water company's mains are laid to the end of the pier for the purpose of supplying steamers.

p. Action as to Bilges of Vessels from Infected Ports.—Never yet taken action. Bilges would be pumped out and cleansed with solution of potassium permanganate.

Final Conference with the Great Clacton Urban (Riparian) Sanitary Authority was held on January 16th, 1894, when a formal recommendation was made with regard to the regular and thorough supervision of all vessels entering the district.

ACTION TAKEN BY THE SANITARY AUTHORITY SINCE INSPECTION.

In the Annual Report for 1893 of the Medical Officer of Health it is stated that the Sanitary Authority had resolved to carry out the recommendations made by the Inspector with regard to the supervision of vessels entering the district.

The Infectious Disease (Notification) Act, 1889, adopted by the Great Clacton Urban Sanitary Authority September 20th, 1893.

Colchester Port Sanitary District.

[Colchester Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* February 22nd, 1893.

Date of Order *permanently* constituting Port Sanitary District: 6th August 1888.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is the Mayor, Aldermen, and Burgesses of the Borough of Colchester, acting by the Council.

It exercises Port functions on waters abutting upon the Colchester Urban Sanitary District, the Lexden and Winstree, and the Tendring Rural Sanitary Districts.

2. *Limits of Jurisdiction:—*

"So much of the Port of Colchester as lies to the north of a straight line drawn from Colne Point to the Colne Fishery Buoy, and to the east of a straight line drawn from the Colne Fishery Buoy to Mersea Stone, on the western bank of the River Colne, together with the waters," * &c.

These limits may be regarded as fairly satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Colchester Urban Sanitary District.

Lexden and Winstree Rural Sanitary District. Parishes:—

East Donyland (Rowhedge), Fingringhoe, Greensted, Langenhoe, East Mersea, West Mersea (part of), and Wivenhoe.

Tendring Rural Sanitary District. Parishes:—

Alresford, Brightlingsea, Elmstead, Great Bentley, St. Osyth (part of), Thorrington.

4. *Apportionment of Expenses:—*

The constituent Sanitary Authorities contribute as follows:—

The Colchester Urban Sanitary Authority in proportion to the rateable value as ascertained from valuation lists of poor rate.

The Lexden and Winstree and the Tendring Rural Sanitary Authorities in proportion to the rateable value of such of the contributory places within their respective Districts as abut upon that part of the said Port which is within the jurisdiction of the Port Sanitary Authority.

5. *General Character and Efficiency of Administration:—*

The general character of the administration is fairly satisfactory. The Authority realises its responsibility, and appears anxious to carry out its duties.

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* See footnote, page 89, *ante*.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

COASTWISE.—*London, Rochester, Harwich,* Ramsgate, Hartlepool, Sunderland, Newcastle, Grimsby, Hull, Carnarvon, Goole, Swansea.

FOREIGN.—*Ostend, Antwerp, Cherbourg,* Brouwershaven, Guernsey, Boulogne, Dieppe, Frederikstadt, Flushing, Ghent, Rouen, Skelleftea.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports.—Wood, grain, stone, coal, oysters.
Exports.—Oysters, oil, oil-cake, general merchandise.
No rags, immigrants, or transmigrants, and no passengers, except on yachts.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	7	1,222	8	1,001	7	642
	Sailing	53	3,898	60	4,657	46	3,640
	Fishing	—	—	—	—	—	—
Total Foreign		60	5,120	68	5,658	53	4,282
Coastwise	Steamers	275	21,292	332	34,065	423	55,734
	Sailing	1,622	85,439	1,829	89,554	1,862	86,289
	Fishing	—	—	—	—	—	—
Total Coastwise		1,897	106,731	2,161	123,619	2,285	142,023

9. *Inland Water Communication:*—None.

10. *Lines of Railway conveying Goods from Port :—*

Great Eastern Railway.
Brightlingsea Line, now leased to the Great Eastern Railway.

11. *Medical Officer of Health :* Charles A. Squire Ling.

Qualifications :—M.R.C.S. and L.S.A. Salary, 10*l.* per annum ; without repayment. In addition, the Port Medical Officer of Health is paid for services rendered at Hythe, Wivenhoe, or the Hospital Ship. He is not paid for inspecting vessels coming into the Port.

Character and efficiency of work done by Medical Officer of Health :—The Port Medical Officer of Health is dissatisfied with his salary, thinking he is underpaid for the services rendered. He appeared to do his work in a casual and half-hearted way. During the epidemic in 1892, all the inspection of vessels was carried out by a specially appointed medical man, who received a salary of seven guineas a week.

12. *Inspector of Nuisances:* Joseph Ames.

No sanitary certificate. Salary, 20*l.* per annum; without repayment. Mr. Ames also acts as Water Bailiff and Harbour Master for the Port of Colchester.

Character and efficiency of work done by Inspector of Nuisances:—

The Port Inspector of Nuisances is an elderly man, who seems alive to the duties of his office, but appears to leave most of the work to the Assistant Port Inspector of Nuisances.

This Assistant Port Inspector of Nuisances is an able man, but owing to his position in the Water Police, his services would not be available when most needed.

13. *Nuisances:*—

Until 1892, the number of vessels inspected appears small compared with the number entering the Port, and most of the vessels inspected in 1892 were inspected in the latter part of the year. None were reported to be defective, and it would appear that the inspection was not carried out as thoroughly as it might have been. In fact there is reason to believe that the vessels inspected in 1892 were those inspected by the Assistant Port Medical Officer of Health, and not by the Port Inspector of Nuisances.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	10	—	—
		Fishing	—	—	—
		Total Foreign	10	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	76	—	—
		Fishing	—	—	—
		Total Coastwise	76	—	—
1891	Foreign	Steamers	—	—	—
		Sailing	8	—	—
		Fishing	—	—	—
		Total Foreign	8	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	98	—	—
		Fishing	—	—	—
		Total Coastwise	98	—	—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	—	—	—
		Sailing	9	—	—
		Fishing	—	—	—
	Total Foreign		9	—	—
	Coastwise.	Steamers	10	—	—
		Sailing	563	—	—
		Fishing	25	—	—
	Total Coastwise		598	—	—

14. *Isolation Hospital:—*

The Port Sanitary Authority possesses a Floating Hospital which was new in 1892, and is moored off the Mersea Stone, the nearest landing stage being at "the Hard." Mersea (400 yards), the next nearest landing stage, would be at "the Hard" at Brightlingsea (a mile). The hospital is a wooden superstructure, built upon an ordinary open lighter, as seen on the Thames. It consists of a single ward, giving accommodation for four beds. It has once touched the bottom, but has never "taken the ground" at the spot where it is moored. There is no caretaker on board, but the hospital is used as a station by the water police, who thus act as caretakers. It is hardly possible to think that any woman would act as nurse on the hospital from its isolated position; and no attendant has been appointed to act in the event of cholera being brought to the Port. It is proposed by the Port Sanitary Authority to use this Floating Hospital for all infectious diseases occurring in the Port. From its construction the hospital is unsuited for the reception of more than one disease at a time, and if it should happen that there was a patient suffering—say from variola—in the hospital, cholera patients could not be received. There is no sleeping accommodation for the attendant. The conveyance of sufferers to hospital would be by boats belonging to the infected ships. The water-supply would be brought from Brightlingsea. The disposal of excrement had not been settled at the date of inspection. It was proposed to use earth-closets and to bury the excreta after disinfection on Mersea Island; the Port Sanitary Authority being afraid to put the excreta into the sea on account of the oyster beds. There is no laundry on board.

15. *Disinfecting Apparatus:—*

None provided.

16. *Mortuary:—*

None provided.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

None made.

18. *Infectious Disease (Notification) Act*, 1889:—
Adopted 1st January 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

The Customs Boarding Station is off Brightlingsea. The staff consists of an Examining Officer who has with him one Out-Door Officer and four boatmen. The Coastguard consist of eight men and a Chief Officer. These men occasionally board for the Customs. All "foreign" coming vessels are supposed to be boarded at Brightlingsea. Coasters are boarded at all places of debarkation in the district, not necessarily on arrival. In theory the Boarding Station is the same for "Foreign coming" and coasting vessels and the same procedure day and night.

The chief places of debarkation are at Brightlingsea, Wivenhoe, East Donyland (Rowhedge), St. Osyth, Hythe, and Torrington.

b. Arrangements as to detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

The Customs officers would detain a vessel and communicate with the Port Medical Officer of Health. There is only one licensed Pilot, who would bring all vessels up at the Boarding Station. There are a number of "mud-pilots," fishermen of the place, who act as pilots when the licensed pilot is not at hand. These men are under no control. Much depends on the state of the tide and weather as to how long a vessel could remain "brought up" at the Boarding Station. If the Coastguard found a vessel from "foreign" they would detain her and communicate with the Customs Officer.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—

The Customs Officer would communicate with the Port Medical Officer of Health and the Port Inspector of Nuisances by special messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships:—

By boat belonging to Customs or Coastguard.

e. Mooring Station:—

The position of the Mooring Station is defined as "that portion "of the Port Sanitary District which is bounded on the north "by an imaginary line drawn across the river half a mile "inside and parallel with the Southern Colne Fishery Buoy."

It appears to be satisfactory.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health stated that he would inspect all vessels, whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected" port"):—

The Port Medical Officer of Health stated that he would examine all persons on vessels, whether "infected" or from "infected ports."

h. Address Book:—

None kept.

i. Special Isolation Provision for Cholera:—

The Hospital Ship.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

The Port Medical Officer of Health would isolate on board the incoming vessel. If the hospital was empty he would take suspected person to the hospital.

l. Means provided for transfer of infected Persons from Ship to Hospital:—

None provided. The vessel's own boat would be used.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) Burning.
(*b.*) Fumigation with sulphur—washing with corrosive sublimate solution, 1 in 1,000.
(*c.*) None.

n. Arrangements made for the Disposal of the Dead:—

No arrangements made at date of inspection.

o. Action as to Water Supply of Vessels from infected Ports:—

Water tanks are to be pumped out and cleansed with Condy's fluid.

Fresh water to be supplied at the Port Sanitary Authority's expense from Brightlingsea.

p. Action as to Bilges of Vessels from infected Ports:—

Bilges are to be pumped out and disinfected with corrosive sublimate solution 1 in 1,000.

Final Conference with the Colchester Port Sanitary Authority was held on April 11th 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of an efficient disinfecting apparatus.
2. The provision of sufficient and proper mortuary accommodation.
3. The steps to be taken to secure the proper medical inspection of vessels.
4. The arrangements to be made beforehand to secure the services of a suitable attendant to the sick on the Floating Hospital, and the provision of sleeping accommodation for the same.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Arrangements made for the medical inspection by night, as well as by day, of all vessels coming within the district.

Provision made for securing the services, should need arise, of a suitable person to act as attendant on the Floating Hospital; and for the provision of sleeping accommodation for such person on board the hospital. [Letter from the Clerk, dated 19th May 1893.]

Port Inspector of Nuisances boards each vessel entering the district, and in case any illness is found on board any craft, the Medical Officer of Health for the Port is immediately communicated with. [Letter from the Clerk, dated 16th September 1893.]

Lexden and Winstree Rural Riparian Sanitary District.

[Colchester Customs Port (part of.)]

Inspector: Dr. R. J. Reece. *Date of Inspection:* March 29th, 1893.

This Riparian District is under the jurisdiction of the Lexden and Winstree Rural Sanitary Authority. The coast line of the District extends from Mersea Stone East on the north to Quarter's Spit on the south. It embraces the whole sea front of Mersea Island, and includes the Salcott Channel and the Thorn Flat running up to Wigborough and also the Strood Channel. It comprises the following Riparian parishes:—Virley, West and East Mersea, Salcott, Little and Great Wigborough, and Peldon.

Shipping Trade:—Principally with *London*, *Maidstone*, and *West Hartlepool;* very little foreign trade, only an occasional vessel returning from the Continent, after having taken out a cargo of oysters.

Imports:—

Coal, coke, oysters, manure, chalk, and stones for road-making.

Exports:—

Straw, hay, roots, farm produce.

No passengers, no immigrants or transmigrants, no rags.

Amount of Shipping Inwards during three years, 1890–91–92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers -	—	—	—	—	—	—
	Sailing - -	—	—	—	—	—	—
	Fishing - -	—	—	—	—	—	—
Total Foreign -		—	—	—	—	—	—
Coastwise	Steamers -	—	—	—	—	—	—
	Sailing - -	168	6,720	176	7,040	190	7,600
	Fishing - -	—	—	—	—	—	—
Total Coastwise -		168	6,720	176	7,040	190	7,600

The nearest line of railway is the Tendring Hundred at Wivenhoe, but this line is across the River Colne; practically the nearest railway is the Great Eastern at Colchester, about nine miles distant.

Chief facts reported as regards Administration:—No Riparian duties have hitherto been carried out either by the Medical Officer of Health (J. W. Cook, M.D.) or by the Rural Inspector of Nuisances (J. H. Pettit). The Medical Officer of Health lives at Colchester, and the Inspector of Nuisances at Lexden, about two miles from Colchester. There is no communication with Mersea except by road.

The Sanitary Authority has not provided any isolation hospital or disinfecting apparatus or mortuary.

The Infectious Disease (Notification) Act, 1889, was adopted January 1st, 1890. No regulations have been made by the Sanitary Authority under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

There is no boarding station off Mersea. Any vessel coming "foreign" goes to the boarding station off Brightlingsea to report, and then comes to Mersea. The home trading vessels are dealt with by the Coastguard, as opportunity occurs.

There are three landing stages or quays along the sea front of Mersea, of which one, "King's Hard," is private.

The principal Hard, however, is at the west end end of the island. It consists of a strip of beach about 500 yards (or more) long. The ground of which is "hard," or along certain portions of which carts can be driven without sinking into the mud. The vessels are beached at high water, and carts remove the cargoes at low tide. The vessels running in here are principally barges, though a few are sloops or small brigs, and there are two small sailing colliers which ply regularly.

There are several channels and creeks at this end of the island, with a considerable fleet of small boats (I counted 37 lying within view), which are engaged in the oyster fishery. These vessels carry a crew of two hands, occasionally three. There is a packing shed for oysters erected on a small island, Cob Marsh Island.

The Chief Officer of Coastguard (Mr. W. G. Anabona) is an active and intelligent officer, and he carries out his duties as a Custom House Officer very thoroughly.

Barges ply up the various creeks to quays and hards on the farms, principally up Salcott Creek, and, as the navigation is difficult, and barges can only go at certain stages of the tide, the Chief Officer of the Coastguard believes he could board every coasting vessel.

The vessels coming "foreign" are principally those employed in the oyster fishery. They run to the Continent, generally to Ostend, with oysters and return empty.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

There are no special arrangements for the detention of vessels.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Chief Officer of Coastguard would telegraph by day to the Medical Officer of Health. By night there would be no means of communication, except by driving into Colchester 9–10 miles.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

None.

e. Mooring Station :—

None fixed.

f. Inspection of Vessels ("infected" or "from "infected port") :—

The Medical Officer of Health stated that he would inspect all "infected" vessels or vessels from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Medical Officer of Health stated that he would examine all persons on board vessels "infected" or from "infected ports."

h. Address Book :—

None provided.

Special Isolation Provision for Cholera :—

None made.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None made.

l. Means provided for transfer of Infected Persons from Ship to Hospital :—
None provided.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods :—
The Medical Officer of Health stated that he would—
(*a*) burn clothes,
(*b*) disinfect ships by means of sulphur fumigation, and washing with solution of corrosive sublimate 1 in 1,000.
(*c*) No means of disinfecting goods.

n. Arrangements as to the disposal of the Dead :—
None made.

o. Action as to Water Supply of Vessels from Infected Ports :—
There is a well in Mersea, known as "St. Peter's" Well, from which vessels could be supplied with water.

p. Acton as to Bilges of Vessels from Infected Ports :—
The Medical Officer of Health would have the bilges of vessels from infected ports pumped out, and disinfected with Condy's fluid.

Final Conference with the Lexden and Winstree Rural Sanitary Authority was held on April 11th 1894, when formal recommendations were made with regard to the following matters :—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisances and of the unwholesome conditions generally.
2. The special duties and obligations devolving upon the Sanitary Authority under the Cholera Regulations of the Local Government Board.

Action taken by the Rural Riparian Sanitary Authority since Inspection.

The Rural Sanitary Authority on the 9th June 1894 purchased two Radcliffe hospital tents, with bedsteads, bedding, and other necessary appliances, for use in case of necessity in the district, also a bell tent and bedding for two nurses, and a covered van fitted up as a kitchen, and in which the tents and all appliances can be stored when not in use. [Letter from the Sanitary Authority, dated 8th August 1894.]

Maldon Port Sanitary District.

[Colchester Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* February 23rd, 1893.

Date of Order *permanently* constituting Port Sanitary District: September 29th, 1890.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "The Mayor, Aldermen, and "Burgesses of the said Borough of Maldon, acting by the "Council."

It exercises Port functions in waters abutting upon the Urban and Rural Sanitary Districts of Maldon.

2. *Limits of Jurisdiction:—*

"The jurisdiction of the said Port Sanitary Authority shall extend to so much of the said Port of Colchester as comprises the River Blackwater from Maldon Bridge to a straight line drawn from Sales Point to Quarter Spit; together with the waters,"* &c.

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Maldon Urban Sanitary District. Parishes:—All Saints, St. Peter's, and St. Mary's.

Maldon Rural Sanitary District. Parishes:—Heybridge, Great Totham, Little Totham, Goldhanger, Tolleshunt Major, Tolleshunt D'Arcy, Tollesbury, Mundon, Latchingdon, Mayland, Steeple, St. Lawrence Newland, and Bradwell-near-the-Sea (part of).

4. *Apportionment of Expenses:—*

The Maldon Urban Sanitary Authority and the Maldon Rural Sanitary Authority contribute in equal proportions.

5. *General Character and Efficiency of Administration:—*

The Port Medical Officer of Health and the Port Inspector of Nuisances appear to know their duties and endeavour to carry them out.

The Port Sanitary Authority has met with difficulty in attempting to provide suitable hospital accommodation. The distance, and the difficulty of communication between the Boarding Stations and the town will remain an obstacle to prompt and efficient administration.

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* See footnote, page 89, *ante*.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

FOREIGN. — *Antwerp, Cherbourg,* Guernsey, Ghent, Drammen, Ostend, Grimstad, Skelleftea, Pataholm, Riga, Aben, Stockholm.

COASTWISE.—*London, Rochester, Harwich, Shields, Newcastle, Faversham, Hartlepool, Sunderland, Middlesbrough,* Grangemouth, Ipswich, Annalong, Seaham Harbour.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

IMPORTS.—Foreign: Timber, grain, stone (granite).
Coastwise: Grain, coal, manure.

EXPORTS.—Foreign: None during 1891–92; grain to France occasionally.
Coastwise: Hay, straw, mangle, wheat, and various grain, vegetable produce, some timber.

No rags, passengers, immigrants, or transmigrants.

8. *Amount of Shipping Inwards during three years* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	1	405	2	1,056	1	723
	Sailing	8	1,437	15	1,667	26	3,121
	Fishing	—	—	—	—	—	—
Total Foreign		9	1,842	17	2,723	27	3,844
Coastwise.	Steamers	10	10,967	5	3,495	6	490
	Sailing	679	22,410	535	20,660	553	25,244
	Fishing	—	—	—	—	—	—
Total Coastwise		689	33,377	540	24,155	559	25,734

Included in the above there have been 52 fishing boats with star fish from the Kentish Flats, &c. (for manure).

9. *Inland Water Communication :—*

There is a canal from Maldon to Chelmsford (14 miles); the only vessels plying on this canal are open lighters, unprovided with sleeping accommodation. These lighters take cargoes from the larger incoming ships, in the open river, and then proceed to Chelmsford.

10. *Lines of Railway conveying Goods from Port :—*

Great Eastern Railway, from Maldon East and Maldon West.
The Maldon, Witham, and Braintree Branch, which joins the main line at Witham, and what are known as the "Essex lines," which run from Maldon to Southminster and Southend.

11. *Medical Officer of Health :* Edwin Parker Gutteridge.

Qualifications :—M.R.C.S., L.S.A., Salary, 10*l.* 10*s.* per annum; with repayment. Mr. Gutteridge also acts as Medical Officer of Health to the Maldon Urban Sanitary Authority.

Character and efficiency of work done by Medical Officer of Health:—

The Port Medical Officer of Health appears to have inspected all the vessels coming "Foreign" during the period when cholera was prevalent in Europe in 1892. He stated that he was prepared to do the same in the future.

12. *Inspector of Nuisances:* Thomas Playford.

No sanitary certificate. Salary, 24*l.* per annum; with repayment. Mr. Playford is also Collector of the River Dues.

Character and efficiency of work done by Inspector of Nuisances:—

The Port Inspector of Nuisances was formerly Chief Officer of Customs as well as Port Inspector of Nuisances; when he resigned the Customs' Service he was allowed to retain his position as Port Inspector of Nuisances.

He subsidises three Officers of the Coastguard, one each at Stansgate, Bradwell, and Goldhanger, who board and inspect the vessels stopping on their station.

He appears to understand his duties, and to carry out his work as far as possible. He is however an old man, in indifferent health.

13. *Nuisances:*—

It will be seen from the list of vessels inspected by the Port Inspector of Nuisances that all the vessels coming "Foreign," and the greater number of vessels coasting have apparently been inspected. As a number of the coasters run backwards and forwards, the number said to have been inspected compares favourably with the total number of vessels entering the Port.

The Port Inspector of Nuisances has not however kept a list of vessels dealt with, on board of which nuisances have occurred, or with regard to which orders as to cleansing, &c. were issued.

INSPECTION OF SHIPPING IN 1890-91-92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	1	—	—
		Sailing	8	—	—
		Fishing	—	—	—
		Total Foreign	9	—	—
	Coastwise.	Steamers	10	—	—
		Sailing (about)	640	—	—
		Fishing	—	—	
		Total Coastwise	650	—	—

	Class of Vessel.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	2	—	—
		Sailing	15	—	—
		Fishing	—	—	—
		Total Foreign	17	—	—
	Coastwise.	Steamers	5	—	—
		Sailing (about)	550	—	—
		Fishing	—	—	—
		Total Coastwise	555*	—	—
1892	Foreign	Steamers	1	—	—
		Sailing	26	—	—
		Fishing	—	—	—
		Total Foreign	27	—	—
	Coastwise.	Steamers	6	—	—
		Sailing (about)	560	—	—
		Fishing	—	—	—
		Total Coastwise	566 *	†	—

* This number is in excess of the number of vessels entering the Port Sanitary District according to the return of H.M. Customs, but possibly include a certain number of the fishing boats.

† Several masters directed to have forecastles cleansed.

14. *Isolation Hospital :—*

There is no hospital belonging to the Port Sanitary Authority. The Port Sanitary Authority has, however, made arrangements with the Maldon Rural Sanitary Authority for the use of a hospital tent belonging to that Authority "if necessary." Should the Port Sanitary Authority take over this tent, it will have to procure another for the use of the Rural Sanitary Authority, which Authority would in the interval be without any accommodation for infectious disease. It is proposed to pitch the tent near the Coastguard Station at Stansgate. This station is situate 5 miles from Heybridge Basin, and 7 miles from Maldon.

The hospital tent is fitted for four beds, but bedding, cooking utensils, &c. had not, at the date of inspection, been provided.

Conveyance of sick to hospital would be in boat of "infected" vessel.

Water would have to be carted to the hospital.

It is proposed to bury the excreta.

15. *Disinfecting Apparatus :—*

None provided.

16. *Mortuary :—*

None provided.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease (Notification) Act*, 1889 :—

This Act has not been adopted by the Port Sanitary Authority.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The Customs Staff at Maldon consists as a rule of two Officers.

There are three Coastguard Stations in the Port, at Bradwell, Stansgate, and Goldhanger respectively, at one or other of which all incoming vessels are boarded. The first-mentioned station is seldom visited by the Customs Officer (half-yearly or quarterly). On these occasions he has to drive 7 miles out. The Coastguard Officer at Bradwell holds a quarantine certificate from Her Majesty's Customs, and deals only with the vessels going into the creeks in his district. The bulk of the vessels are boarded at Stansgate. This is in the Harwich division of the Coastguard, called Stansgate Station, Watch Vessel No. 21. There is a Chief Officer and four men at this station, one of whom is always on duty day and night. The Chief Officer holds a quarantine certificate from Her Majesty's Customs, and is paid 3*l.* per annum for officiating as quarantine officer. He acts with the knowledge and consent of the Lords of the Admiralty, the duty and the remuneration received being entered in the printed instructions of the station. He understands his duty as a Quarantine Officer of Customs. When a vessel comes from "Foreign" he leaves one of his men on board as a boarding officer until relieved by the Customs Officer.

The Coastguard Officer at Goldhanger holds no quarantine certificate, and in the event of a vessel coming from "foreign" he notifies the fact to the Coastguard Station at Stansgate, and the Chief Officer of this station boards the vessel. Coasters are not boarded by the Coastguard as Quarantine Officers; but they may when convenient board coasters as Inspectors of Nuisances.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The vessels coming from foreign are all boarded by the Coastguard, who would detain an infected vessel below Stansgate.

The pilots also who are under the Trinity Board, London, have orders from the Sub-Commissioner not to bring infected vessels above Stansgate.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Coastguard, if the tide served, would row to Maldon and communicate with the Port Medical Officer of Health, and Port Inspector of Nuisances; otherwise they would telegraph from Southminster (6 miles from Stansgate). Arrangements have been made to telegraph at any time during the day or night.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

If the tide served he would return in the Coastguard's Boat; otherwise he would drive to Stansgate, 12 miles, or Goldhanger, somewhat less, on the north side of river, and then be conveyed by the Coastguard's Boat. The Customs have no boat, neither has the Port Sanitary Authority.

e. Mooring Station :—

The mooring station is situate on the north side of Stone Hole in the River Blackwater.

This appears to be satisfactory, and has received the approval of the Collector of Customs.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health stated that he inspected all vessels from "foreign."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health stated that he examined all persons on board in each case.

h. Address Book :—

None kept.

i. Special Isolation Provision for Cholera :—

None, except the hospital tent.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Persons suspected to be suffering from cholera would be kept on board the infected vessel, or if there were no patients already in the hospital tent would be removed to the tent.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

By ship's boat. The Port Sanitary Authority has no stretcher. The Port Medical Officer of Health has a stretcher of his own, St. John's Ambulance pattern.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) The Port Medical Officer of Health stated that he would burn infected clothes.

(*b.*) The Port Medical Officer of Health stated that he would fumigate "infected" ships with sulphur and disinfect with corrosive sublimate solution (1 in 1,000), or by carbolic acid solution.

(*c.*) There is no arrangement for disinfecting goods.

n. Arrangements made for the disposal of the Dead :—

None made at the time of inspection.

The Port Sanitary Authority stated that it would bury at sea if the patient died on board ship.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that he would have the water tanks emptied and cleansed with Condy's fluid.

p. Action as to Bilges of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that he would have the bilge pumped out, and disinfected with corrosive sublimate or carbolic acid solution.

Final Conference with the Maldon Port Sanitary Authority was held on April 12th, 1893, when formal recommendations were made with regard to the following matters :—

(1.) The provision of proper and sufficient hospital accommodation.

(2.) The provision of an efficient disinfecting apparatus.

(3.) The adoption of the Infectious Disease (Notification) Act, 1889.

(4.) The necessity for the regular and thorough supervision of vessels entering the Port, in order to ensure the abatement of nuisances and unwholesome conditions generally.

At the conference Dr. Reece elicited the fact that the hospital tent was no longer available for the reception of patients.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Attempts to procure a site for an Isolation Hospital have failed. [Letters from the Port Sanitary Authority dated 26th April 1893, 16th June 1893, 17th March 1894, and 12th June 1894.]

Until a site is obtained on which to place a disinfecting apparatus infected articles will be burnt. [Letter from the Port Sanitary Authority dated 26th July 1893.]

The Infectious Disease (Notification) Act, 1889, adopted by the Port Sanitary Authority on 12th September 1893 and came into operation on 17th October 1893. [Letter from the Port Sanitary Authority dated 21st September 1893.]

All vessels entering the district are inspected as heretofore and all vessels from "foreign" are inspected by the Medical Officer of Health. [Annual Report for 1893 of the Port Medical Officer of Health.]

Diagram Map showing the Sanitary Districts Port & Riparian comprised in the Customs Ports of London, Rochester, Faversham, Ramsgate, Dover and Folkestone.

[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural districts each parish that is riparian is separately designated.]

I London, II Rochester, III Faversham, IV Sandwich, V Deal Port Sanitary Districts.

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SECTION VII.

Customs Ports of London, Rochester, Faversham, Ramsgate, Dover, and Folkestone.

Illustrated in Map VII.

LIMITS OF CUSTOMS PORTS.

(22.) *London.*

The limits of the said Port of London shall commence at high-water mark in the River Thames at Teddington Lock, in the County of Surrey, and extend down both sides of the River Thames to an imaginary straight line drawn from the Pilot Mark at the entrance of Havengore Creek, in the County of Essex, to the Land's End at Warden Point, in the Isle of Sheppey, in the County of Kent, such point being the north-western limit of the Port of Faversham, and shall extend up and include both sides of the River Medway to an imaginary straight line drawn from the south-east point of land westward of Coalmouth Creek, thence across the said River Medway to the westernmost point of the piece of land which forms the eastern side of Stangate Creek, or, in other words, the north-west point of Fleet Marsh, and from thence in a southerly direction to Swale Church, in the said County of Kent, and thence in a north-easterly direction to Elmley Chapel, in the said Isle of Sheppey, a supposed direct line from Elmley Chapel to Swale Church, being the western limit of the Port of Faversham; and the said Port of London shall include the Islands in Havengore Creek aforesaid, called Potton and Rushly Islands, and so much of the said Creek and watercourses as extends from it to the Town of Rochford, and shall*

Date of Treasury Warrant, 1st day of August 1883.

The whole of this Customs Port is comprised within the boundaries of the London Port Sanitary District, as to which see page 250.

(23.) *Rochester.*

The limits of the said Port of Rochester shall commence at an imaginary line drawn from the south-east point of land westward of Coalmouth Creek, across the River Medway to the westernmost point of the piece of land which forms the eastern side of Stangate Creek, or, in other words, the north-west point of Fleet Marsh, and from thence in a southerly direction to Swale Church, in the County of Kent, being the boundary line there of the Port of London, and shall extend up and include the said River Medway, and shall*

Date of Treasury Warrant, 1st day of August 1883.

The whole of this Customs Port is comprised within the boundaries of the Rochester Port Sanitary District, as to which see page 266.

(24.) *Faversham.*

The Port of Faversham shall commence at high-water mark at the Land's End in the parish of Warden, in the Isle of Sheppey, in the County of Kent, and extend from thence in a north north-east direction to the

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* See footnote, page 78, *ante*.

boundary line of the Port of London at the termination of the Port of Rochester, being distant about 1¼ miles from the shore, and from thence along the said boundary line in a direction south-east-half-east, nearly 4 miles, and then continued in a direction east-south-east along the said boundary line, 7 miles, or thereabouts, and then in a south-south-west direction across the Woolpack and Last Sands to the Reculvers, in the County of Kent. From thence into the East Swale, and up the same to a supposed direct line from Elmley Chapel, in the Isle of Sheppey, to Iwade Church, in the County of Kent, the said Church being north-west by west-half-west with Elmley Chapel. From thence up the River or Haven of Faversham to a bridge commonly called or known by the name of the Sluice Bridge, together with*

Date of Treasury Warrant 28th day of November 1820.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Faversham, the Urban Riparian District of Herne Bay, and certain Riparian Parishes of the Rural Sanitary Districts of Sheppey and of Blean. Shipping trade is confined to the Faversham Port Sanitary District, the Urban Riparian District of Herne Bay, and to the Blean Rural District, reports with regard to which will be found at pages 274, 287, and 283 respectively.

(25.) *Ramsgate.*

The limits of the said Port shall commence at and include the Reculver Towers, in the County of Kent (being the eastern limit of the Port of Faversham), and shall extend in a north-easterly direction across the Last, and Woolpack Sands, until it reaches about three miles and a quarter from the shore, and shall continue thence in an easterly direction to a point four miles north of the North Foreland Lighthouse, and thence it shall continue in a south-easterly direction to the north-east of the said North Foreland Lighthouse, for a distance of two miles and a quarter, and thence in a direct line south to the North Sand Head, the northern extremity of the Goodwin Sands, and thence in a direct line to the northern mouth of the River Stour, at its junction with the sea, along the north side of the said River throughout its course over the flats to its inland navigable source, at a place called North Shore, on the north side of the said River, and shall*

Date of Treasury Order, 3rd day of February 1894.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Sandwich, the Urban Riparian Sanitary Districts of Margate, Broadstairs, Ramsgate, and St. Lawrence, and certain Riparian Parishes of the Rural Sanitary District of the Isle of Thanet. The shipping trade is chiefly confined to the Sandwich Port Sanitary District and to the Margate and Ramsgate Urban Riparian Districts, reports as to the two first-named districts will be found at pages 292 and 289 respectively.

(26.) *Dover.*

The limits of the said Port shall commence at the Copt Point, in the County of Kent (being the eastern limit of the Port of Folkestone), and continue along the said coast of the County of Kent, to a place called North Shore, on the north side of the River Stour, in the said County, thence along the north side of the said River throughout its course over the flats, and including the said River, and thence in a straight line to the North Sand Head, the northern extremity of the Goodwin Sands, being the western boundary of the Port of Ramsgate, and shall*

Date of Treasury Warrant, 3rd day of February 1894.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Deal, the Urban Riparian Sanitary District of Dover

* See footnote, page 78, *ante*.

and certain Riparian Parishes of the Rural Sanitary Districts of Eastry and Dover. Shipping trade is chiefly confined to the Deal Port Sanitary District and to the Dover Urban Riparian District, and reports as to them will be found at pages 297 and 303 respectively.

(27.) *Folkestone.*

The limits of the said Port of Folkestone, shall commence at Copt Point, in the County of Kent, being the western limit of the Port of Dover, and shall extend westwardly along the coast of the County of Kent, and the coast of the County of Sussex, to the point of the headland called Galley Hill, on the coast of Sussex, being the eastward limit of the Port of Newhaven, and shall extend seaward to a distance of three miles, from low-water mark, along the coast within the said limits, and shall*

Date of Treasury Warrant, 9th day of November 1881.

Within the boundaries of the Customs Port are comprised the Urban Riparian Sanitary Districts of Folkestone, Sandgate, Hythe, New Romney, Lydd, Rye, and Hastings, and certain Riparian Parishes of the Rural Sanitary Districts of Elham, Romney Marsh, Rye, and Hastings. The shipping trade is chiefly confined to the Folkestone Urban Riparian District, as to which see page 308.

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* See footnote, page 78, *ante*.

London Port Sanitary District.

[London Customs Port.]

Inspector: Dr. Theodore Thomson. *Dates of Inspection:* May and August, 1893.

Date of Order *permanently* constituting Port Sanitary District:—March 20th, 1884; also by Statute under ss. 111, 112, Public Health (London) Act, 1891 [54 & 55 Vict. ch. 76].

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Mayor, Commonalty, and Citizens of the City of London."

The Port Sanitary Authority exercises port functions in waters abutting upon numerous Urban and Rural Sanitary Districts of which a detailed list is given under section 3.

2. *Limits of Jurisdiction:—*

These are the same as the limits of the Customs Port of London, which, under a Treasury Order dated 1st August 1883, are defined as follows:—

"The limits of the said Port of London shall commence at high-water mark in the River Thames, at Teddington Lock, in the county of Surrey, and extend down both sides of the River Thames to an imaginary straight line drawn from the pilot mark at the entrance of Havengore Creek, in the county of Essex, to the Land's End at Warden Point, in the Isle of Sheppey, in the county of Kent, such point being the north-western limit of the Port of Faversham, and shall extend up and include both sides of the River Medway, to an imaginary straight line drawn from the south-east point of land westward of Coalmouth Creek, thence across the said River Medway to the westernmost point of the piece of land which forms the eastern side of Stangate Creek, or in other words the north-west point of Fleet Mark, and from thence in a southerly direction to Swale Church, in the said county of Kent, and thence in a north-easterly direction to Elmley Chapel, in the said Isle of Sheppey, a supposed direct line from Elmley Chapel to Swale Church, being the western limit of the Port of Faversham, and the said Port of London shall include the Islands in Havengore Creek aforesaid, called Potton and Rushly Islands, and so much of the said creek and watercourse as extends from it to the town of Rochford, and shall also include all other islands, rivers, streams, creeks, waters, watercourses, channels, harbours, docks, and places within the before-mentioned limits contained."

The limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

South Bank.

Sheppey Rural Sanitary District. Parishes:—
Warden, Eastchurch, Minster.

Sheerness Urban Sanitary District. Parish:—
Sheerness.

Queenborough Urban Sanitary District. Parish:—
Queenborough.

Milton Rural Sanitary District. Parish:—
Iwade.

Hoo Rural Sanitary District. Parishes:—
Stoke, Isle of Grain, All Hallows, St. Mary, High Halstow, Cooling.

Strood Rural Sanitary District. Parishes:—
Cliffe, Higham, Shorne, Chalk, Denton.

Gravesend Urban Sanitary District. Parishes:—
Gravesend, Milton.

Northfleet Urban Sanitary District. Parish:—
Northfleet.

Dartford Rural Sanitary District. Parishes:—
Swanscombe, Stone, Crayford.

Dartford Urban Sanitary District. Parish:—
Dartford.

Erith Urban Sanitary District. Parish:—
Erith.

The Metropolitan Urban Sanitary Districts of Plumstead; Woolwich; Greenwich; Rotherhithe; Bermondsey; St. Olave; St. Saviour; Lambeth; Battersea; and Wandsworth.

Richmond Rural Sanitary District. Parishes:—
Barnes, Mortlake, Kew, Petersham.

Richmond Urban Sanitary District. Parish:—
Richmond.

Ham Common Urban Sanitary District. Parish:—
Ham.

Kingston Rural Sanitary District. Parish:—
Ham.

North Bank.

Teddington Urban Sanitary District. Parish:—
Teddington.

Twickenham Urban Sanitary District. Parish:—
Twickenham.

Heston and Isleworth Urban Sanitary District. Parishes:—

Brentford Urban Sanitary District. Parish:—
Brentford.

Chiswick Urban Sanitary District. Parish:—
Chiswick.

The Metropolitan Urban Sanitary Districts of Hammersmith; Fulham; Chelsea; St. George, Hanover Square; St. Margaret and St. John, Westminster; St. Martin-in-the-Fields; Strand; Temple; City of London; Whitechapel; St. George-in-the-East; Limehouse; and Poplar.

West Ham Urban Sanitary District. Parish:—
West Ham.

East Ham Urban Sanitary District. Parish:—
East Ham.

Barking Urban Sanitary District. Parish :—
Barking.
Romford Rural Sanitary District. Parishes :—
Dagenham, Hornchurch, Rainham, Wennington.
Orsett Rural Sanitary District. Parishes :—
Aveley, West Thurrock, Stafford, Little Thurrock, Chadwell, West Tilbury, East Tilbury, Mucking, Stanford-le-Hope, Corringham, Fobbing.
Grays Thurrock Urban Sanitary District. Parish :—
Grays.
Billericay Rural Sanitary District Parishes :—
Vange, Pitsea, Bowers Gifford.
Rochford Rural Sanitary District. Parishes :—
Canvey Island, South Benfleet, Hadleigh, Leigh, Southchurch, South Shoebury, North Shoebury, Great Wakering, Little Wakering, Havengore, Foulness, Barling, Shopland, Sutton, Eastwood, Rochford, Little Stambridge, Great Stambridge, Paglesham.
Southend Urban Sanitary District. Parish :—
Southend.

4. *Apportionment of Expenses :—*

All expenses are paid out of the corporate funds of the Mayor, Commonalty, and Citizens of the City of London.

5. *General Character and Efficiency of Administration :—*

The general character of the Port Sanitary Authority's administration is good. The staff of inspectors of nuisances, however, is insufficient for proper surveillance of the sanitary conditions of the port; while the want of ready means of disinfecting infected goods at the docks is unsatisfactory.

6. *Ports from whence Ships arrive :—*

"All ports or places in the known world having trade with Britain" (Customs).

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

"General, including all specified" (Customs).

8. *Amount of Shipping Inwards during three years*, 1890–91–92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers*	7,946	6,969,825	7,779	7,817,215	7,683	6,782,299
	Sailing†	2,863	1,287,158	2,561	1,002,225	2,728	1,081,370
	Fishing	—	—	—	—	—	—
	Total Foreign	10,809	8,256,983	10,340	8,819,440	10,411	7,863,669
Coastwise	Steamers†	9,430	3,907,179	9,686	4,007,405	10,087	4,122,080
	Sailing†	30,946	1,525,571	31,728	1,571,576	32,901	1,575,618
	Fishing	—	—	—	—	—	—
	Total Coastwise	40,376	5,432,750	41,414	5,578,981	42,988	5,697,698

* Including foreign fishing boats which are amenable to report and entry.
† Excluding fishing boats which are exempt from coasting regulations.

9. *Inland Water Communication :—*

The River Medway: large traffic, for particulars see Report on the Rochester Port Sanitary District (page).

Canal from Gravesend to Higham: very small traffic (manure barges).

The River Dart: considerable barge traffic to Dartford and the Crays.

Deptford Creek, being the entrance to the Ravensbourne: For the distance of one mile from the entrance a large traffic (mostly coal vessels).

The Surrey and Commercial Canal: very extensive and important traffic (largely timber) to Kensington, Camberwell, Peckham, &c.

The River Wandle: small traffic.

The River Mole: small traffic.

The Upper Thames and its tributaries: very large and extensive traffic.

The Brent and the Grand Junction Canal: very large and extensive traffic to Coventry, Birmingham, Stafford, and the Midlands generally.

The Regent's Canal: traffic to the Midlands through the Paddington Canal.

The River Lea Navigation: important traffic to Waltham Abbey, Hertford, &c.

The River Roding (and Barking Creek): traffic principally to Barking.

Rainham Creek: manure and chemical works' barges to Rainham.

Mucking Creek: small traffic to Stanford-le-Hope.

Shell-haven Creek: very small traffic (barges).

Hole Haven; Dutch eel boats lie here (sometimes from 15 to 20 in number); the haven is also a shelter harbour for barges and small craft, which lie there to the amount of 100 or thereby; there is considerable barge traffic for farm purposes to Fobbing and Vange up creeks running into the haven; one of the creeks runs into Hadleigh Ray, up which there is some small barge traffic.

Havengore Creek: small barge traffic to Rochford, Paglesham, and Barling. Access is also had to the creek by the River Crouch and the River Roach, north of Foulness Island, and by this route some few sailing vessels go to Rochford.

The Port Sanitary Authority supervises the inland traffic in the ordinary course of inspectional duty. It also enforces the provisions of the Canal Boats Acts.

10. *Lines of Railway conveying Goods from Port :—*

East London; Great Eastern; Great Northern; Great Western; London and India Docks; London and North-Western; London and South-Western; London, Brighton, and South Coast; London, Chatham, and Dover; London, Tilbury, and Southend; Midland; North London; South-Eastern.

11 *Medical Officer of Health:* William Collingridge.

Qualifications :—M.D., D.P.H. Salary, 900*l.* per annum without repayment. Dr. Collingridge devotes the whole of his time to the duties of his office. He is an officer of much

energy and ability, whose administration of the Port leaves nothing to be desired. He is aided in his duties by a medical staff partly permanently and partly temporarily appointed as follows :—

One permanent Assistant Medical Officer of Health, namely, Philip Whitcombe, M.R.C.S., resident at Gravesend, and receiving 210*l.* a year in form of honorarium. His duties are to board, if required, vessels off Gravesend; and he has professional charge of the Port Sanitary Authority's hospital at Gravesend. He is engaged in private practice.

Four temporary assistants, namely :—

Herbert Williams, M.D., receiving 7*l.* 7*s.* per week.

Grant Warren, L.R.C.P. and S.I., receiving 7*l.* 7*s.* per week.

Arthur Reginald Chater, M.R.C.S., L.R.C.P., receiving 6*l.* 6*s.* per week.

Victor James Hodgson, M.R.C.S., L.R.C.P., receiving 6*l.* 6*s.* per week.

These four appointments are all determinable at a week's notice. These assistants devote their whole time to their duties, which are to board and inspect vessels as set forth later in this report, and to perform other work delegated to them by the Medical Officer of Health. While on duty they live on board a hulk (the "Hygeia") belonging to the Port Sanitary Authority, and moored off Gravesend.

Special arrangements have also been made by the Port Sanitary Authority with a number of medical men residing at one or another place in the neighbourhood of the Port Sanitary District, whereby, in case of need, vessels will be boarded by one of these gentlemen, who have undertaken to act as deputies to the Medical Officer of Health in regard to duties under the Board's Cholera Orders.

A list of these medical men is appended herewith :—

District.	Name.	Address.
Woolwich	P. O. Haynes, M.R.C.S.	2, Rectory Place, Woolwich.
Royal Albert Dock	A. Finlay, L.F.P.S.G. and L.S.A.	Central Station, Royal Albert Docks.
Southend	G. F. Jones, M.R.C.S., L.S.A.	Clarence House, Southend.
London and St. Katharine's Dock.	J. Loane, M.R.C.P.E., M.R.C.S., P.H.	1, Dock Street, E.
Brentford	H. Bott, L.R.C.P. M.R.C.S.	Brentford, Middlesex.
Stanford-le-Hope	A. W. Mercer, M.R.C.S., L.S.A.	Stanford-le-Hope, Essex.
Tilbury	A. H. Fowler, L.R.C.P., M.R.C.S.	8, The Gardens, Tilbury.
Hammersmith	N. C. Collier, L.R.C.P.E., L.S.A.	10, West Kensington Gardens, W.
Battersea	W. H. Kempster, M.D.	Vestry Offices, Battersea Rise, S.
St. Saviour's, Southwark	J. Herron, M.D.	73, Southwark Bridge Road.
Leigh	R. Orme, M.R.C.S.	The Firs, Leigh, Essex.
Erith	J. H. Hooper, M.D., M.S.	58, Pier Road, Erith.
Surrey and Commercial Dock.	J. Shaw, M.R.C.S., L.S.A.	151, Lower Road, Rotherhithe.

District.	Name.	Address.
Sheerness - - -	P. Swales, M.R.C.S., L.S.A.	2, Alexander Terrace, Marine Town, Sheerness.
Avelay and "Cornwall" -	J. Dunlop, M.B., C.M. -	Avelay, Purfleet.
S.W. India Dock Railway	W. Murray Leslie, M.D.	531, Manchester Road, West India Dock.
Millwall Docks - -	W. Murray Leslie, M.D.	41, Glengall Road, E.
Regent's Dock - -	W. H. Johnston, M.R.C.S., L.S.A.	725, Commercial Road, E.

12. *Inspectors of Nuisances :—*

There are five Inspectors of Nuisances, acting under the Medical Officer of Health, namely :—

Name.	District.	Qualifications.	Salary.
Henry Spadaccini -	Royal Albert and Victoria Docks.	Certificate Sanitary Institute.	3*l.* per week.
William Baillie - -	Gravesend and Tilbury Docks.	Do.	2*l.* 10*s.* ,,
William Anderson -	India and Millwall Docks.	Do.	2*l.* 10*s.* ,,
Thomas Bailey - -	London, St. Katharine's, Regent's, Surrey and Commercial Docks.	Do.	2*l.* ,,
William Romeril -	The River (from London Bridge to Woolwich).	No special -	2*l.* ,,

All these officers are appointed from year to year, and give their whole time to their duties. William Romeril, who has at present no special qualifications, is appointed on condition that he takes a proper qualification within twelve months from the date of his appointment (October 1892).* The whole of these officers apparently comprehend and discharge their duties in a satisfactory manner.

13. *Nuisances :—*

It will be noted, on comparison of the following table showing the inspection of shipping with the Customs returns of the trade to the port given under section 8, that from 3,000 to 4,000 vessels from foreign escape inspection, and from 24,000 to 26,000 coasting vessels are not inspected. Even with due allowance made for short-run vessels that enter the port several times in the course of the year, this cannot be regarded as showing a proper degree of supervision of shipping.

* This condition has since been complied with.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number* of Orders issued.
1890	Foreign	Steamers	5,020	314	450
		Sailing	2,055	225	264
		Fishing	—	—	—
		Total Foreign	7,075	539	714
	Coastwise	Steamers	867	31	50
		Sailing	6,910	192	287
		Fishing	—	—	—
		Total Coastwise	7,777	223	337
1891	Foreign	Steamers	5,355	280	461
		Sailing	1,947	110	150
		Fishing	—	—	—
		Total Foreign	7,302	390	611
	Coastwise	Steamers	1,002	25	41
		Sailing	6,452	131	179
		Fishing	—	—	—
		Total Coastwise	7,454	156	220
1892	Foreign	Steamers	5,836	147	453
		Sailing	1,717	71	112
		Fishing	—	—	—
		Total Foreign	7,553	218	565
	Coastwise	Steamers	1,129	25	35
		Sailing	5,357	112	164
		Fishing	—		—
		Total Coastwise	6,486	137	199

* These orders are *verbal*. The practice is to verbally order any alteration required, and to support such verbal order by a letter to the owner of the vessel.

14. *Isolation Hospital:—*

The Port Sanitary Authority's hospital is situated on the south bank of the Thames about three-quarters of a mile below Gravesend, in the parish of Denton. It is 16 miles from the Albert Docks, and 45 miles from Teddington Lock (the most distant part of the Port Sanitary District).

It is erected upon a piece of land 4 acres in extent, inclosed by a close wooden fence about 5 feet in height. The site is sufficiently ample to permit erection of additional hospital buildings thereon.

With the exception of one recently added block, the hospital was erected in 1884. The buildings consist of an administration block, wards, and outbuildings. All are constructed of brick, with the exception of the recently added block referred to

which is a concrete and timber structure. The administrative block contains four living rooms for two married caretakers; two rooms used as nurses' bedrooms; medical officer's room; kitchen, scullery, &c. The wards are arranged in three blocks; two of which are approached by half-covered ways, the third by an uncovered gravel path.

The capacity of the several wards is as follows:—

—	Superficial Area.	Cubic Space.
Block A., Ward 1: 36′ × 26′ 6″ × 13′ - -	954	12,402
„ 2: 24′ × 26′ 6″ × 13′ - -	636	8,268
Block B., „ 1: 14′ × 14′ × 13′ - -	196	2,548
„ 2: 14′ × 14′ × 13′ - -	196	2,548
Block C. (recently added), Ward: 33′ × 24′ × 12′ -	792	9,504

The total accommodation amounts to 17 beds, if air space of 2,000 cubic feet be allowed per bed.

In Block B. there is a nurses' day-room between the wards. In Block C. there is a nurses' day-room and nurses' bedroom.

Bathing is provided for by portable baths. Excreta are disposed of in earth-closets, of which the contents are removed and dug into ground on the hospital site. Liquid drainage is conveyed into a cesspool (constructed of brick in cement, tarred on the interior) on the site. This cesspool is stated to be emptied into the Thames daily after treatment of contents with perchloride of mercury solution (35 grains to 1 ounce). Water-supply is derived from a deep well (120 feet) in the Chalk on the site.

Outbuildings consist of laundry, mortuary, and disinfecting apparatus.

Special arrangements have been made at this hospital for the disinfection of excreta. To this end the Port Sanitary Authority has acquired a stock of sawdust and wood-wool. The sawdust is saturated with a solution of perchloride of mercury of strength 35 grains to 1 ounce, and is then dried under cover in the open air; to the sawdust, thus treated, is added in equal proportion wood-wool (which is supplied impregnated with perchloride of mercury). This mixture is used in the ward closets in place of earth, and is also placed in bed-pans into which excreta are about to be passed, a sufficient quantity being added to produce a semi-solid mass. This mass is then transferred to a galvanized iron boiler and there dried sufficiently to permit its being subsequently burned in the furnace underneath the boiler.

The Committee of Management of the Seamen's Hospital at Greenwich is also prepared to put 16 beds at the disposal of the Port Sanitary Authority for cholera cases occurring on board ships within the waters of the Port of London. These beds are situated in 10 small wards on the upper floor of one of the wings of the Hospital. The wards are clean, cheerful, and airy. If 16 cases were accommodated in these wards, each case would have an air-space of from 800 to 900 cubic feet.

15. *Disinfecting Apparatus:—*

The Port Sanitary Authority has two disinfecting apparatuses

both in connexion with the Port Hospital, referred to in the last section. One of these is a Washington Lyons' steam chamber; the other (not now made use of for purposes of disinfection) is a Scott's hot-air chamber.

The great distance of these disinfecting chambers from most of the docks precludes their being readily available for disinfection of goods from ships lying in these docks.

16. *Mortuary :—*

The Port Sanitary Authority has one mortuary; this is situated at the Port Hospital. Its dimensions are 9′ 2″ × 7′ 6″: height 12′.

17. *Regulations under Section* 125 *Public Health Act*, 1875 :—

Regulations under the above section were made by the Port Sanitary Authority in 1883; these were amended in 1885, and again in 1889. These regulations were superseded by bye-laws made under the Public Health (London) Act, 1891, which were approved by the Local Government Board, January 27th, 1893.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

This Act was adopted by the Port Sanitary Authority on January 20th, 1890. Measles was added to the list of notifiable diseases on May 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The Boarding Station (1) for the Medway (with the exception of mail steamers for Queenborough) is Garrison Point; (2) for mail steamers to Queenborough, is Queenborough; for Southend and Leigh, is off Southend Pier; for Thames Haven and district is from Holehaven Creek to Petroleum Wharf in Sea Reach; (3) for London proper is Gravesend Reach, below the Custom House. Within these limits there are many wharves, jetties, piers, and landing places. The principal are Queenborough Pier, Port Victoria, Sheerness Pier, Southend Pier, Thames Haven, and the Ship and Lobster in Gravesend Reach.

The Boarding Station is the same whether the vessel comes from foreign or coastwise.

Coasters are boarded to a very limited extent. The Coastguard undertake it for vessels passing Gravesend; the Customs at the various landing places up to tidal limits (Teddington Lock), including the various creeks.

As regards vessels from foreign, the procedure as to boarding is the same by night as by day; coasting vessels are boarded by day only.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

There is not an Officer of Customs in attendance at *every* place of debarkation.

The staff available for revenue and questions-putting purposes is as follows: at Garrison Point—the Coastguard, Garrison

Point; at Queenborough—Customs Officer, Queenborough Pier; at Southend and Leigh—Principal Coast Officer, Customs, Southend; Thames Haven and District—Examining Officer, Customs, Thames Haven; London proper—Quarantine Staff of Customs Officers, Gravesend.

The above-named officers would detain where the Quarantine Law or Cholera Orders so prescribed and would notify to the Port Sanitary Authority the existence on board ship of any case of sickness. Detention (where prescribed) would be resorted to by night as well as by day.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

At Gravesend the Customs, prior to boarding a vessel from foreign, call at the Port Sanitary Authority's hulk and inform the Medical Officer in charge of their intention to board such vessel; whereupon one of the Port Sanitary Authority's Medical Officers proceeds along with the Customs (on the Customs launch) to the vessel. If the vessel prove to be from one of the ports scheduled by the Port Sanitary Authority (see section *f*), the Medical Officer performs the routine of inspection duty as described in section *g*. If the vessel prove not to be from one of the ports scheduled by the Port Sanitary Authority no inspection is made by the Medical Officer unless he has reason to believe that there is a case of sickness on board.

If it come to the knowledge of the Customs that there is a case of sickness on board a vessel lying in the river off Gravesend, they forthwith send a special messenger who informs the Medical Officer in charge on board the Port Sanitary Authority's hulk of this fact, whereupon one of the Port Sanitary Authority's Medical Officers boards the vessel referred to.

At Queenborough, the Customs communicate by special messenger with Mr. Swales, the Deputy Medical Officer of Health.

At other parts of the district, communication is sent by telegram or special messenger to one of the Deputy Medical Officers of Health by the Customs, the Coastguard, or the Dock Authorities, according to the locality.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority possesses two steam launches. One of them is used for purposes of ordinary inspection in the upper part of the river (above Erith), the other is used in the stretch of river from Erith to Sheerness for inspection of shipping, conveyance of patients to hospital, and attendance on detained vessels.

e. Mooring Station :—

The Mooring Station is situate in the Gravesend Reach of the River Thames, opposite the Port Sanitary Authority's hospital, at a distance from shore varying with the draught of the vessel moored, and ranging from 100 to 600 yards from the south bank of the river. It has been approved by the Customs, and also by the Thames Conservancy.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Medical Officers of the Port Sanitary Authority board, off Gravesend, all vessels from any one of a list of places which are scheduled by the Port Sanitary Authority from time to time. A notice of their intention to board all vessels from such places is from time to time issued by the Port Sanitary Authority to all shipowners, brokers, and agents of shipping trading to London, as well as to all Pilots piloting vessels into the ports, and to all masters of vessels on their arrival in port. At the time of inspection the following ports were scheduled: all French, German, Russian, Dutch, and Belgian ports, from Archangel to L'Orient; the port of Marseilles; and all ports on the Black Sea and the Sea of Azov. All vessels, whether "infected" or coming from a place which is "infected," are boarded and inspected by a Medical Officer of the Port Sanitary Authority off Gravesend, immediately on arrival, whether by night or by day.

g. Examination of Persons on Vessels ("infected" or from "infected" port):—

The inspection is conducted as follows: The crew are mustered and individually inspected, and asked whether their health be good, and particularly whether they have had recent diarrhœa; further and more detailed medical examination is made only when suspicious circumstances exist. The number of the crew is compared with that set forth in the ship's articles, or in a list certified as correct by the master. If the vessel inspected be a passenger boat the master is requested to produce his passenger list, and the passengers are individually seen and the same inquiries made as in the case of the crew.

The names, destinations, and addresses at such destinations, of all persons on board vessels coming within the Port of London and passing Gravesend are, if either the vessel, or the place whence she has arrived, be regarded as infected, taken by the Port Sanitary Authority's officers, and, after verification, are forwarded to the Sanitary Authority of the district to which these persons are proceeding. The verification referred to may take the form of looking up in the London Postal Directory addresses given in London; while regard is had to the individual's appearance, and the character of answers given to questions put. If the result be not satisfactory, the person is detained until inquiry is made at the address given, this being done through the Sanitary Authority of the district in which the address is situated.

A somewhat different procedure is adopted in the case of passenger traffic by the Flushing and Queenborough boats (which do not pass up the river as high as Gravesend). On these boats only first and second class passengers are taken; and the Shipping Company will, on receipt of a telegram from the Port Medical Officer of Health requesting them to do so, supply each passenger with a card on which his name, destination, and address at such destination would be set forth, such card to be delivered up to a Medical Officer of the Port Sanitary Authority who will await the arrival of the vessel at Queenborough. It is not proposed to send on to the Sanitary Authorities of districts to which passengers may be about to

proceed the names and addresses of these persons unless cholera should have already made its appearance or should subsequently make its appearance among the crew or passengers on board the vessel.

At other parts of the Port Sanitary District the inspection of vessels and the examination of persons on vessels would be made by one or other of the Deputy Medical Officers of Health.

Special precautions are taken as regards immigrants and transmigrants. (See Appendix.)

h. Address Book :—

Address books with counterfoils are kept.

i. Special Isolation Provision in Cholera :—

This is provided in the Port Sanitary Authority's Hospital at Gravesend and in certain wards at the Seamen's Hospital, Greenwich (for description, see section 14).

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

See under section *i*.

l. Means provided for transfer of infected Persons from Ship to Hospital :—

Conveyance of infected persons by water is effected either by steam launch or by a 30-foot boat which may be either rowed or towed by the launch or by tug; this boat is partially decked over. For conveyance by land, from shore to hospital, a distance in the case of the Port Sanitary Authority's Hospital of some 100 yards, the Port Sanitary Authority has provided three stretchers.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

These are as follows :—

(*a.*) Washington Lyons' steam chamber; and boiling.

(*b.*) Sulphur fumigation; followed by washing down with perchloride of mercury solution (25 grains to the ounce), with subsequent scrubbingi wth soap and water and free ventilation.

(*c.*) Such of the foregoing means as may be applicable.

n. Arrangements made as to Disposal of Dead :—

The bodies of persons dead of cholera in the Port Sanitary Authority's hospital at Gravesend are placed in a shell along with disinfectants, and are buried in Gravesend Cemetery.

o. Action as to Water Supply of Vessels from Infected Ports :—

All vessels coming from ports scheduled from time to time in a list issued by the Port Sanitary Authority are required to empty all water tanks containing water for drinking or cooking purposes. This list comprises all ports that the Port Medical Officer of Health considers as infected with cholera. The Port Sanitary Authority has not hitherto supplied water to vessels thus dealt with. If necessary, however, the Port

Sanitary Authority would supply water either from its hospital well or from the Gravesend public water supply at its own cost. There are water boats at Gravesend.

p. Action as to Bilges of Vessels from Infected Ports :—

All vessels from ports contained in the list referred to in section *o* are required to pump their bilges dry; and, after addition of perchloride of mercury solution, the bilge is again pumped dry.

Appendix.

Immigrants and Transmigrants :—

In view of the large number of these persons entering the Port special arrangements have been made for their temporary shelter.

The Leman Street Shelter, in Whitechapel, receives immigrants and transmigrants. By agreement made with the Port Sanitary Authority in May 1893 the Committee of Management of this Shelter undertakes to temporarily take charge of immigrants and transmigrants who, on arrival in port, may be unable to furnish the Port Sanitary Authority's officers with their address at the place to which they are about to proceed. When these persons land they are met by an officer of the Shelter, and are by him conducted to the Shelter and there housed. If within seven days after arrival they leave the Shelter to proceed elsewhere the Port Sanitary Authority and also the Sanitary Authority of the district to which they are about to proceed are informed by the Shelter officials of the address to which they are going.

At Rosaline House, 2A, Tenter Street North, Goodmanfields, E., accommodation is provided for female immigrants and transmigrants by the Jewish Ladies' Association.

The Emigrants' Home, Blackwall, receives immigrants and transmigrants. This is by far the largest establishment of the three enumerated, the two others having comparatively limited accommodation. According to the manager this Home can accommodate 500 persons. It is formed by two separate buildings, of which one is a lofty-roomed, spacious-corridored, well-lighted structure (formerly the Brunswick Hotel). It contains 175 beds; and provision is made for separate accommodation of the sexes as well as for families. The other building is a brick-walled, slate-roofed shed of large size and contains 225 beds. The Emigrants' Home is not registered as a common lodging-house. It is not connected with the Dock Company nor with any Charitable Association, but is a private speculation.

The Docks :—

At the time of inspection particular attention was paid to the methods of excrement and refuse disposal and removal and to the water supply of the several docks within the district.

Disposal and Removal of Excreta and Refuse :—

London and St. Katharine's Docks: Water carriage system entirely, draining into adjacent public sewers. Dry refuse is periodically removed to Fuller's Shoot, on the north bank of the Thames (at North Woolwich).

Regent's Dock: Save for one cesspit-privy, excreta are received by trough waterclosets flushed by hand and draining into adjacent public sewers. The contents of the cesspit-privy referred to, as well as dry refuse, are periodically removed by barges up the Regent's Canal and buried in a market garden near to Enfield Lock.

Millwall Dock: Save for one cesspit-privy, excreta are disposed of by water carriage, draining into adjacent public sewers. The contents of the cesspit-privy referred to, as well as dry refuse, are periodically removed and tipped on a mud shoot in the Isle of Dogs.

India Docks: Mainly on the cesspit-privy system, partly on water carriage system with drainage into adjacent public sewers. The contents of cesspit-privies, as also dry refuse, are periodically removed and tipped on a mud shoot on the south bank of the Thames immediately below Crossness Sewage Works.

Victoria and Royal Albert Docks: A few waterclosets drain into adjacent public sewers, but for the most part cesspit-privies are provided for the reception of excreta. The cesspit-privy contents and part of the dry refuse are stated to be buried by the Dock Company on their own land. The remainder of the dry refuse is burned.

Tilbury Docks: Excreta received into iron pails, which are stated to be emptied daily; the contents of the pails are, along with dry refuse, tipped on waste land on the north bank of the Thames. This land is situate within the Dock Company's premises, and the excreta and dry refuse, after tipping, are said to be burned.

Surrey and Commercial Docks: Entirely on the cesspit-privy system. The contents of the cesspit-privies are periodically removed and buried in the railway market gardens between New Cross and Deptford. Dry refuse is periodically removed and tipped on the Charlton mud shoots.

The possibility of dock water becoming infected by cholera excreta also received attention. Vessels lying up in dock are presumed to have their closets screwed up, so that they may not be used. This, however, in no case applies to closets used by officers, but only to those provided for the remainder of the crew. Further, even those provided for the remainder of the crew are in many instances not screwed up; partly because if the vessel lie not at the quay but in the centre of the dock the accommodation provided by the Dock Company is with difficulty available; partly because, even in the case of vessels lying up to a quay, the rule is occasionally transgressed. In the Regent's Dock, for example, some three fourths of the vessels lie up towards the centre of the dock, and accordingly in that dock the majority of the vessels have their closets in use.

Of the vessels lying close to quays and visited by the Inspector, the closets provided for the crew (other than officers) were in most instances found to be screwed up.

Water Supply :—

The following list shows at what docks and wharves water is supplied; and also the source of such supply in each instance :—

St. Katharine's Dock	East London Water Company.
London Dock	Do.
Regent's Canal Dock	Do.
Millwall Dock	Do.
West India Dock	Do.
East India Dock	Do.
Victoria Dock	Do.
Royal Albert Dock	Do.
Commercial Dock	Kent Waterworks.
Fenning's Wharf	Southwark and Vauxhall Water Company.
Hartley's Wharf	Do.
Hill's Wharf	Kent Waterworks.
Charlton Ballast Wharf	Do.
Greenhithe	Do.
Northfleet Ballast Wharf	Do.
Gravesend	Do.
Allhallows Pier	East London Water Company.
St. Katharine's Wharf	Do.
Carron Wharf	Do.
Hermitage Wharf	Do.
Dundee Wharf	Do.
Bell Stairs	Do.
Brown Wharf	Do.
Beckton Gas Wharf	Do.
Grays	South Essex Water Company.

NOTE.—Shipping lying in the Thames, and not obtaining water at one or other of the places mentioned in the foregoing list are supplied by water-barges filled from the mains of the East London Water Company.

Final Conference with the London Port Sanitary Authority was held on September 5th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of a permanent inspecting staff sufficient to ensure the regular and thorough inspection of all vessels entering the port.
2. The necessity for provision being made for the prompt and efficient disinfection of articles from vessels in which infectious disease develops while they are lying in dock within the district.

ACTION TAKEN BY PORT SANITARY AUTHORITY SINCE INSPECTION.

The medical staff acting under the Medical Officer of Health altered to three at Gravesend and one at Sheerness ; all these four assistants giving their whole time to their duties. Two additional inspectors of nuisances appointed to give their whole time to their duties at 1*l.* 15*s.* per week. Additional administrative buildings provided at the Port Sanitary Hospital in the form of a porter's lodge at entry to hospital.

Arrangement made with the Whitechapel Sanitary Authority that the steam disinfecting chamber of that authority shall, when required by the Port Sanitary Authority, be put at the disposal of the letter for disinfection of infected articles on board vessels in docks adjacent. Diarrhœa added to list of notifiable diseases from August 4th to September 30th, 1894. The cesspit-privy in Regents Dock abolished and replaced by a watercloset.

In the summer of 1894 an arrangement was effected by the American Line whereby emigrants proceeding from the Continent to America, *via* London, are conveyed directly by rail from London to Southampton. Emigrants arriving at London under this arrangement are provided by the American Line with tickets, which are regarded by the officers of the Port Sanitary Authority as constituting a sufficient address under the Board's Order; they are permitted to land at London, and on landing are received by an official belonging to the American Line, and by him are sent to Southampton by train. Since this arrangement has come into operation there has been a great reduction in the number of emigrants resorting to the emigrants' home at Blackwall.

Rochester Port Sanitary District.

[Rochester Customs Port.]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* April 13th and 14th, 1893.

Date of Order *permanently* constituting Port Sanitary District: May 16th, 1887.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is constituted by "the Mayor, "Aldermen, and Citizens of the City of Rochester, acting by "the Council." It exercises port functions in waters abutting upon the Rochester, Chatham, and Gillingham Urban Sanitary Districts, and upon the Hoo, Medway, Milton, Strood, and Malling Rural Sanitary Districts. It has also in the past exercised some port functions within the London Port Sanitary District.

2. *Limits of Jurisdiction :—*

The limits of jurisdiction are the same as those of the Customs Port of Rochester, as defined in a Treasury Warrant dated August 1st, 1883. This Warrant runs as follows: "The "limits of the said Port of Rochester shall commence at an "imaginary line drawn from the south-east point of land "westward of Coalmouth Creek, across the River Medway to "the westernmost point of the piece of land which forms the "eastern side of Stangate Creek, or, in other words the north-"west point of Fleet Marsh, from thence in a southerly "direction to Swale Church, in the County of Kent, being the "boundary line there of the Port of London, and shall extend "up and include the said River Medway, and shall include "all islands, watercourses, rivers, streams, creeks, harbours, "and places within the said limits contained."

The limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Rochester Urban Sanitary District. Parishes :—St. Nicholas, St. Margaret, Strood (part of), Frindsbury (part of), Chatham (part of).

Chatham Urban Sanitary District. Parishes :—Chatham (part of), Gillingham (part of).

Gillingham Urban Sanitary District. Parishes :—Gillingham (part of), Chatham (part of).

Milton Rural Sanitary District. Parishes :—Lower Halstow, Rainham, Upchurch, Iwade (part of).

Strood Rural Sanitary District. Parishes :—Cuxton, Halling, Strood (part of), Frindsbury (part of).

Malling Rural Sanitary District. Parishes :—Burham, Snodland, Wouldham.

Hoo Rural Sanitary District. Parishes:—Hoo, Grain, Stoke.

Medway Rural Sanitary District. Parish:—Grange (extra-parochial).

4. *Apportionment of Expenses:—*

The Riparian Authorities named above contribute towards expenses as follows:—

(*a.*) The Urban Sanitary Districts in proportion to their rateable values.

(*b.*) The Rural Sanitary Authorities in proportion to the rateable values of their contributory places abutting on the port.

(*c.*) Special provision is made in the Board's Order of May 16th, 1887, section IV., Article 5, regarding payment by Chatham. Extra towards hospital expenses.

5. *General Character and Efficiency of Administration:—*

Somewhat lax.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*):—

(*a.*) Foreign.—*Dunkirk, Cherbourg, Calais,* Antwerp, Rotterdam, Groningen, *Elsinore, Stockholm, Gothenburg, Kalmar, Kotka, Abo, Wasa,* Riga, Konigsberg, Libau, Memel, *Dantzic, Christiana, Drammen, Friedrichstadt,* Alexandria, Sulina, Gallipoli, Moulmein, Rangoon, Quebec, &c., &c.

(*b.*) Coastwise.—*London, Newcastle, Seaham Harbour, Sunderland, West Hartlepool,* Middlesbrough, *Chester, Swansea, Cardiff,* Newlyn, &c.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Imports from British ports are: Coals, coke, corn, china, clay, bricks, and broken stone.

From foreign ports: Wood, corn, hemp, tar, straw, oil, empty casks, and broken stone.

Exports, coasting, are: Chalk, lime, and cement.

Foreign: Cement.

There is no passenger trade from foreign parts. A small passenger steamer runs between Rochester and Southend during the summer months.

8. *Amount of Shipping Inwards during three years,* 1890–91–92:—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	48	18,294	58	20,532	65	21,541
Foreign { Sailing	211	31,974	194	33,902	248	43,942
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	259	50,268	252	54,434	313	65,483
Coastwise { Steamers	1,007	280,276	1,060	278,112	935	260,423
Coastwise { Sailing	7,807	355,199	7,125	324,934	6,947	318,992
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	8,814	635,475	8,185	603,046	7,882	579,415

9. *Inland Water Communication :—*

Up the River Medway by barges to Aylesford and Maidstone. There is only occasional supervision of this traffic by the Port Sanitary Authority.

[The Canal Boats Acts apply to this traffic, and the Rochester Urban Sanitary Authority employs a superintendent of police to discharge the duties devolving upon the Authority under these Acts.]

10. *Lines of Railway conveying Goods from Port :—*

London, Chatham, and Dover Railway.

South-Eastern Railway.

11. *Medical Officer of Health :* William Watson.

Qualifications :—M.R.C.S., L.S.A. Salary, 50*l.* per annum ; with repayment.

Other Sanitary Offices :—Mr. Watson is also Medical Officer of Health to the Rochester Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—Mr. Watson is an active officer. He does not engage in private practice, but gives his whole time to his health duties and other public appointments held by him.

12. *Inspector of Nuisances :* Alfred Hill.

No sanitary certificate. Salary, 10*l.* per annum ; no repayment from public funds. Is also Deputy Harbour Master.

Character and efficiency of work done by Inspector of Nuisances :—

The amount and character of work done by this officer will be gathered from a reference to the table annexed under section 13. It has not been of much account in the past, as might have been anticipated from the smallness of the salary paid.

Formerly the Inspector of Nuisances was aided by an Assistant Inspector, who received a salary of 10*l.* per annum ; but this officer, who was also a Collector of River Tolls, had, at the time of inspection, resigned.

13. *Nuisances :—*

During the three years 1890, 91, and 92 the Port Sanitary Authority's officers inspected from 13 to 22 per cent. of vessels that entered the port from foreign, and from 4 to 5 per cent. of coasting vessels.

INSPECTION of SHIPPING in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders Issued.
1890	Foreign	Steamers	10	7	7
		Sailing	24	—	—
		Fishing	—	—	—
	Total Foreign		34	7	7
	Coastwise	Steamers	54	4	4
		Sailing	308	32	32
		Fishing	—	—	—
	Total Coastwise		362	36	36
1891	Foreign	Steamers	8	6	6
		Sailing	27	—	—
		Fishing	—	—	—
	Total Foreign		35	6	6
	Coastwise	Steamers	61	4	4
		Sailing	280	48	48
		Fishing	—	—	—
	Total Coastwise		341	52	52
1892	Foreign	Steamers	14	5	5
		Sailing	54	3	3
		Fishing	—	—	—
	Total Foreign		68	8	8
	Coastwise	Steamers	87	13	13
		Sailing	307	63	63
		Fishing	—	—	—
	Total Coastwise		394	76	76

14. *Isolation Hospital:—*

In the autumn of 1892 the Port Sanitary Authority hired for a period of two months a vessel which at that time was used as a watch-ship for oyster grounds, with the view of utilising her as an isolation hospital. At the time of inspection this arrangement was no longer in force. The Port Sanitary Authority, however, considered that this vessel would be available, and proposed to use her for the purpose of isolating cholera cases in the event of any being brought to the port. At the time of inspection she lay in the Medway, close to the entrance of Half-Acre Creek, and in the event of her services being utilised for hospital purposes it was proposed to tow her to the South Yantlet, and there to moor her at a spot about 7 miles below Rochester Bridge. This vessel is about 50 tons register. Access to the deck is by a ladder fixed on

the ship's side, and from deck to below is by a hatchway and ladder as well as by a skylight which is removable and which is 3 feet by 3 feet 6 inches. Patients would be lowered through the opening provided by the temporary removal of the skylight. The interior is divided into two compartments by a wooden partition, in which there is a door. Of these compartments one is 25 feet long, 14 feet 6 inches broad, and 8 feet high, and has a capacity of 29,200 cubic feet. The other compartment is 12 feet long, 12 feet 6 inches broad, and 8 feet high, and has a capacity of 1,208 cubic feet. The first of these compartments is lighted by the removable skylight already alluded to. Access to deck is by ladder and hatchway. Ventilation is effected by the skylight, which is made to open, and by the hatchway. No means of warming are provided. The second compartment, which is situated forward of the first, is lighted by a skylight. This skylight, which is 2 feet 6 by 2 feet, and is made to open, is, save for a door leading into compartment 1, the only means of ventilation of this compartment. Warming is provided for by a cooking-stove. There is no access to deck save through compartment 1. Some cupboards for holding stores are situate forward of compartment 2, and a coal locker is situate aft of compartment 1. On deck are two galvanized iron tanks capable of holding 50 gallons of water. The whole vessel has been whitewashed inside and tarred outside. The only hospital furnishings that have been provided are a few mattresses, four swinging cots, a table, and some linen. In 1892 a nurse was engaged at a retaining fee of 10*s.* 6*d.* per week, but at the time of inspection this arrangement had ceased.

15. *Disinfecting Apparatus :—*

The Port Sanitary Authority has no disinfecting apparatus. There is a hot air chamber at the Chatham and Rochester Joint Hospital for infectious diseases. This hospital is about $1\frac{1}{4}$ miles from Rochester High Street, and about 2 miles from the busiest part of the River Medway.

16. *Mortuary :—*

There is a public mortuary constructed of corrugated iron, lined internally with wood, at the Town Quay, Rochester. This building has a cement floor, is well lighted, has water and gas laid on, and is drained. There is also a small mortuary belonging to the Corporation of Rochester at Sheerness Pier.

17. *Regulations under Section* 125 *Public Health Act,* 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 : —

Adopted by Port Sanitary Authority on September 20th, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs' Boarding Station or Stations :—

By General Order $\frac{11}{84}$ the Boarding Station for all places within the Port of Rochester is "Garrison Point in the Isle of

Sheppey." Vessels from foreign are boarded off Garrison Point by the Coastguard, one of whom proceeds with the vessel to Rochester, where she is boarded by the Customs.

The Boarding Station is the same for vessels coming coastwise as for vessels coming from foreign.

Coasters are not all boarded by the Customs at Rochester—indeed the per-centage so boarded, which varies according to the amount of time at the disposal of officers, is sometimes very small. At Garrison Point, on the other hand, a considerable number of coasting vessels are boarded by officers of the Coastguard. The Coastguard Staff at Garrison Point consists of twenty men and an officer in charge. There are men always on duty by night as well as by day at this station, and procedure as regards boarding and detention is at all times the same. There is no officer on duty at Rochester by night, and therefore no boarding at that time.

The places of debarkation in the Port Sanitary District are as follows:—

Hoo Creek, for barges; Lower and Upper Upnor, for barges and a few larger craft; Strood, which is the principal landing stage on the north shore of the river; Halstowe, for barges; Twinney, for barges; Shoregate, for barges; Alisham Quay, for barges and for a few coasting vessels of larger size, as well as a few foreign vessels; Rainham, for barges; Copperhouse, for barges; Gillingham, for barges as well as for some larger coasting vessels and a few foreign vessels; Rochester and Chatham, which are the principal places for debarkation on the south shore of the Medway.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots:—

Vessels with sickness on board would be detained by the Coastguard at Garrison Point and by the Customs at Rochester.

Pilots: Deep sea pilots (usually from Dover, Deal, Aldeburgh, Yarmouth, not from foreign) almost always land at Sheerness or Port Victoria; only rarely do they proceed up the Medway to Rochester. Medway pilots are for the most part inhabitants of Rochester, and are taken on by vessels about to proceed up the Medway at the Nore or at Sheerness. For pilotage purposes, the Port of Rochester is directly under the Trinity House; unlicensed pilots are said to be few in number. No instructions with reference to action in regard to vessels from infected ports or with sickness on board have been given to pilots by the Rochester Port Sanitary Authority.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—

The Coastguard telegraph from Garrison Point to the Customs at Rochester. The Customs communicate with the Port Medical Officer of Health, who resides at Rochester, by special messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships:—

The Port Sanitary Authority has no means of its own for the conveyance of the Medical Officer of Health to ships, but has

arranged with the Medway Conservancy Board to have, when necessary, the use of the latter's steam launch. (See Note as to this under *l.*)

e. Mooring Station :—

The mooring station is the "Quarantine Ground" in Stangate Creek. This has been approved by the Queen's Harbour Master of Sheerness Dockyard, within whose district it is situate. It is within the Rochester Customs Port and Port Sanitary District. The station is satisfactory.

f. Inspection of Vessels ("infected" or from "infected port") :—

All vessels regarded as "infected" or from an "infected" port, would be inspected by the Medical Officer of Health at Rochester. The Medical Officer of Health proposes to inspect during the current year *all* vessels from foreign.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

Medical examination will be made of persons on vessels that are infected, or that have come from an infected port.

h. Address Book :—

Has been provided, and will be utilised when necessary.

i. Special Isolation Provision for Cholera :—

None other than the vessel described in section 14.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None other than the vessel described in section 14.

l. Means provided for transfer of infected Persons from Ship to Hospital :—

It is proposed to use the steam launch belonging to the Medway Conservancy Board as an ambulance, and it is stated that the Conservancy Board has agreed to this proposition. But it is to be noted that such permission would be subject to the Conservancy Board not having need of the launch's services.

m. Arrangements made for disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*), *Goods :—*

(*a.*) None other than by boiling and the use of liquid disinfectants.

(*b.*) Sulphur fumigation, washing, and use of liquid disinfectants.

(*c.*) Such of the means mentioned under (*a*) and (*b*) as may be applicable.

n. Arrangements made as to the disposal of the Dead :—

There are three public cemeteries contiguous to the port. The Port Sanitary Authority proposes to communicate with the Burial Boards of these cemeteries on the subject of interment of cholera dead.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Board's Order on this subject has been frequently enforced and will continue to be enforced. The Rochester Public Water Supply is provided gratis. There are water boats in the port.

p. Action as to Bilges of Vessels from Infected Ports :—

The Board's Order on the subject of bilges was frequently enforced during 1892, and will continue to be enforced. The bilge is pumped out, liquid disinfectants are added, and the bilge is again pumped out.

Final Conference with the Rochester Port Sanitary Authority was held on May 26th, 1893, when formal recommendations were made with regard to the following matters :—

(1.) The necessity for regular and systematic inspection of vessels for sanitary purposes.
(2.) The need for proper hospital and ambulance provision.
(3.) The provision of sufficient and suitable means for the conveyance by water of the Inspecting Officers of the Authority.
(4.) The provision of an efficient disinfecting apparatus.
(5.) The steps to be taken beforehand to ensure, in the event of any marked extension of cholera in Europe, the medical inspection of all vessels entering the port.

Action taken by Port Sanitary Authority since Inspection.

An Inspector of Nuisances appointed by the Port Sanitary Authority to give his whole time to the duties of his office ; a vessel purchased and fitted up to serve as a floating hospital ; arrangements made, in conjunction with the Port of London Sanitary Authority, as regards medical inspection of vessels entering the port. [Annual Report of the Port Medical of Health for 1893.]

During the year 1894 there entered Rochester 251 vessels from foreign and 8,085 coastwise vessels, of these 191 (or 76 per cent.) from foreign and 1,352 (or 16 per cent.) coastwise were inspected by the Port Inspector of Nuisances—150 reported defective and of these 139 remedied. [Annual Report of Port Medical Officer of Health for 1894.]

Faversham Port Sanitary District.

[Faversham Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* September 18th, 1893.

Date of order *temporarily* constituting Port Sanitary District: March 15th, 1881.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Faversham acting by the "Council."

It exercises Port functions in waters abutting upon the Faversham Rural Sanitary District and upon the Sheppey Rural Sanitary District, in addition to the Faversham Urban Sanitary District.

2. *Limits of Jurisdiction:—*

"So much of the Customs Port of Faversham as lies east of Harty Ferry and west of an imaginary straight line drawn from Shellness Point to the eastern extremity of the Nagden Salt Marshes, including the river or Haven of Faversham, and the creek called Oare Creek; together with the waters,"* &c.

The limits of jurisdiction might with administrative advantage be extended, so that the whole Swale should be under one authority, instead of being, as at present, under the jurisdiction of several authorities.†

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Faversham Urban Sanitary District. Parishes:—Faversham (part); Preston (part).

Faversham Rural Sanitary District. Parishes:—Faversham (part); Preston (part); Goodnestone; Graveney; Luddenham; and Ore.

Sheppey Rural Sanitary District. Parishes: — Harty; and Leysdown.

4. *Apportionment of Expenses:—*

The Faversham Urban Sanitary District bears expenses in proportion to its total rateable value.

The Faversham and the Sheppey Rural Sanitary Districts bear expenses in proportion to the rateable value of such of their parishes or contributory places as abut on the waters of the Port Sanitary District.

5. *General Character and Efficiency of Administration:—*

Somewhat lax, but showing tendency to improvement.

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* See footnote page 89, *ante*. † See page 280, *post*.

6. *Ports from whence Ships arrive :—*

(Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign.—*Christiana*, Burea, Gefle, Frederickstadt, Gothenburg, Riga, Cherbourg, Dunkirk, Guernsey.

Coastwise.—*London*, Rochester, Newcastle, Seaham, Pembrey, Hartlepool, Sunderland, Swansea, Amble, Hull, Goole, Cardiff, Middlesbrough, Kirkcaldy, Leith, Portsmouth, Dover, Ipswich, Colchester, Woodbridge, Harwich, Rye.

These ports are entered in order in each class (British and foreign) according to the amount of trade to Faversham from each.

7. *Character of Trade :—*

(Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Timber from the above Norwegian and Swedish ports ; slates from the two French ports ; granite from Guernsey.

Trade to the north of England ports consists of chalk, old iron, and wooden hoops ; trade from these northern ports consists of coal ; to other places export trade of bricks and general cargo (such as hops, cement, and farm produce), and from these other places import trade of coal, coke, timber, grain, charcoal, nitrate of soda, &c.

No rags, passengers, immigrants, or transmigrants.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	1	98	2	153
Foreign { Sailing	19	3,537	21	3,592	20	3,337
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	19	3,537	22	3,690	22	3,490
Coastwise { Steamers	30	3,298	5	663	13	1,703
Coastwise { Sailing	2,838	120,479	2,663	112,192	2,946	125,959
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	2,868	123,777	2,668	112,855	2,959	127,662

9. *Inland Water Communication :—*

No inland water communication.

10. *Lines of Railway conveying Goods from Port :—*

London, Chatham, and Dover Railway Company.

11. *Medical Officer of Health :* Charles John Evers.

Qualifications :—M.D., M.R.C.S. Salary, 20*l.* per year, with repayment. Dr. Evers also acts as Medical Officer of Health for the Faversham Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—The Medical Officer of Health, in addition to holding this appointment for the Urban Sanitary District as well as for the Port Sanitary District, is also engaged in private practice. He devotes part of his time to port duties, and carries out the provisions of the Board's cholera orders.

12. *Inspector of Nuisances:* Frederick Monger.

The Inspector of Nuisances holds no sanitary certificate. His salary is 15*l.* per year, with repayment. He also holds the appointment of toll check keeper for the Faversham Navigation Commissioners.

Character and efficiency of work done by Inspector of Nuisances :—The Inspector of Nuisances is a man somewhat advanced in years, who, however, appears to be not devoid of energy. He has a good knowledge of his duties.

13. *Nuisances :—*

The amount and result of inspection of vessels during the past three years are given in the Table below. It will be noted, on comparison with the Customs returns of vessels entering the port that a large amount of shipping escapes inspection by the Port Sanitary Authority's officers.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	13	—	—
		Fishing	—	—	—
		Total Foreign	13	—	—
	Coastwise.	Steamers	26	—	—
		Sailing	853	69	—
		Fishing	100	—	—
		Total Coastwise	979	69	—
1891	Foreign	Steamers	—	—	—
		Sailing	18	—	—
		Fishing	—	—	—
		Total Foreign	18	—	—
	Coastwise.	Steamers	4	—	—
		Sailing	945	38	—
		Fishing	114	—	—
		Total Coastwise	1,063	38	—

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers - - -	—	—	—
		Sailing - - -	15	—	—
		Fishing - - -	—	—	—
		Total Foreign -	15	—	—
	Coastwise.	Steamers - - -	5	—	—
		Sailing - - -	1,155	52	—
		Fishing - - -	69	—	—
		Total Coastwise -	1,229	52	—

14. *Isolation Hospital :—*

The Port Sanitary Authority has constructed a wooden building, which it is intended to use as a cholera hospital. This structure consists of a barge, on which has been erected a sort of wooden shed, sub-divided so as to provide two wards, each 17′ × 12′ × 9′, and a kitchen lying forward 7′ × 9′ × 5′·6. The two wards are separated by a partition 9′ high, in which there is a door; each is lighted by two windows, one on each side, made to open; and warming is provided for by a small stove in each ward. Storage room is very limited; there is no accommodation for staff, and no mortuary or laundry has been provided. There is one W.C., on deck aft. No provision has been made for water-supply or lighting. Access to wards from both ends is by a narrow staircase. The walls are formed of wood planking, match boarded internally; floors and roof are made of planks. This hospital structure, at the date of inspection, was moored at Danes Wharf in Faversham Creek, but it is proposed to moor her in the Swale when her services are required.

15. *Disinfecting Apparatus :—*

The Port Sanitary Authority has no disinfecting apparatus. But the Faversham Urban Sanitary Authority has a hot-air disinfecting chamber. This is situated at the Urban Hospital for Infectious Diseases, some three miles from the wharves and quays.

16. *Mortuary :—*

There is no mortuary at Faversham, nor is there any mortuary accommodation in connection with the Port Sanitary Authority's floating hospital. There is a mortuary at the Urban Sanitary Authority's hospital, situated about three miles inland.

17. *Regulations under Section* 125, *Public Health Act,* 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act,* 1889 :—

Adopted by Port Sanitary Authority on July 8th, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

"Between the mouth of Faversham Creek and the Horse Buoy in the East Swale." The Boarding Station is the same for vessels from foreign as for coasters. The places of debarkation in the district are Hollowshore and Faversham quays and wharves. All coasters are boarded by the Coastguard in the East Swale, near the Horse Buoy. The Customs board at Faversham quays and wharves. There is no Customs Officer or Coastguard at Hollowshore. Procedure, as regards boarding, is the same by night as by day in the East Swale; at Faversham the Customs board vessels at night in special cases only.

b. Arrangements as to detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

When necessary, the Coastguard will detain vessels in the East Swale; the Customs will detain vessels at Faversham.

There is no Pilotage Authority at Faversham. There are three licensed Pilots who occasionally pilot vessels to Faversham; these Pilots reside at Margate and Ramsgate. For the most part, ships are taken up the Creek by the Faversham Navigation Commissioners' steam tug. No instructions have been issued to Pilots.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Coastguards and the Customs will communicate by special messenger with the Medical Officer of Health in the event of their detaining a vessel.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority has no launch or boat, but has made arrangements with a fisherman who resides at the entrance to Faversham Creek for hire of a boat when requisite.

e. Mooring Station :—

The mooring station is "from the boundary line of the Port Sanitary District at Harty Ferry to the Faversham Oyster Company's Beacon erected in Oare Marsh, known as the upper part of the Beacon Ground." This mooring station was appointed on July 24th, 1883.

f. Inspection of Vessels ("infected" or from "infected port") :—

Medical inspection is made only of vessels reported by the Customs or the Coastguard as having sickness on board.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

If sickness be reported on board a vessel, the Medical Officer of Health visits the vessel and medically examines all persons on board.

h. Address Book :—

An address book is kept.

i. Special Isolation Provision for Cholera.—

None, other than that described under section 14.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

None, other than that described under section 14.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

No means are provided other than the boat referred to under section *d.*

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods:*—

(*a.*) None of a satisfactory character.
(*b.*) Sulphur fumigation; and subsequent washing down with perchloride of mercury solution.
(*c.*) No means of a satisfactory character.

n. Arrangements made as to the disposal of the Dead:—

None made at date of inspection. The Port Sanitary Authority was about to enter into communication with neighbouring burial authorities on the subject.

o. Action as to Water Supply of Vessels from Infected Ports:—

Casks containing water for drinking or cooking purposes will be emptied and cleansed; and water will be supplied by the Port Sanitary Authority free of charge from a well situated at Hollowshore.

p. Action as to Bilges of Vessels from Infected Ports:—

The bilges of vessels from "infected ports" will be pumped out; perchloride of mercury solution will be then added, and the bilges again pumped out.

Final Conference with the Faversham Port Sanitary Authority was held on September 25th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for the regular and thorough inspection of all vessels entering the port.
2. The provision of sufficient and suitable hospital and ambulance accommodation.
3. The provision of suitable means for the conveyance of their inspecting officers by water.
4. The provision of a mortuary.
5. The steps to be taken to secure the medical inspection of all vessels entering the port.

At a date subsequent to that on which the foregoing inspection was made, the Faversham Port Sanitary District was extended so as to bring all the waters of the Swale under the jurisdiction of one Authority: and a description is here appended of this new and extended District. A statement is also provided of the amount and character of the trade to that part of the District not formerly included therein, but now included in the District as extended. Subsequent to the date of this extension, an inspection was made of the newly-formed District: and of this inspection a brief account is here given.

Inspector: Dr. Theodore Thomson. *Date of Inspection:* April 3rd and 6th, 1894.

Date of Order *permanently* constituting Port Sanitary District: February 7th, 1894.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Faversham acting by the "Council."

The Port Sanitary Authority is not a Joint Board. It exercises port functions in other Sanitary Districts besides its own.

2. *Limits of Jurisdiction:—*

"A line drawn due south from the most easterly point in the seaward boundary of the Parish of Leysdown to the common boundary of the Parishes of Selling and Boughton-under-Blean; a line drawn due west from the point where the first-mentioned line meets the said common boundary of the Parishes of Selling and Boughton-under-Blean to the common boundary of the Parishes of Hollingbourn and Wormshill; a line drawn due north from the point where the last-mentioned line meets the said common boundary of the Parishes of Hollingbourn and Wormshill to the common boundary of the Parishes of Saint James (Isle of Grain) and Allhallows; and a line drawn from the point where the last-mentioned line meets the said common boundary of the said Parishes of Saint James (Isle of Grain) and Allhallows to the point firstly herein-before mentioned; together with the waters,"* &c.

These limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Faversham Urban Sanitary District. Parishes:—Faversham (part); Preston (part).

Milton-next-Sittingbourne Urban Sanitary District. Parish:—Milton.

Sittingbourne Urban Sanitary District. Parish:—Sittingbourne.

Faversham Rural Sanitary District. Parishes:—Graveney; Luddenham; Ore; Preston (part); Teynham.

Milton Rural Sanitary District. Parishes:—Iwade; Merston; Tonge.

Sheppey Rural Sanitary District. Parishes:—Elmley; Minster; Harty; Leysdown; Eastchurch.

4. *Apportionment of Expenses:—*

The Urban Sanitary Authorities contribute in proportion to the rateable value of their respective Districts: the Rural Sanitary Authorities contribute in proportion to the rateable value of

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* See footnote page , *ante*.

such contributory places within their respective Districts as abut on the waters of the port. Provided that any expenses incurred by the Port Sanitary Authority in connexion with the treatment of cases of infectious disease occurring on board any vessel lying within their jurisdiction and District, and bound to the District of one of the before-mentioned Riparian Authorities, as well as expenses in connexion with the disinfection of such vessel shall be charged to, and be payable by, the Authority within whose District the cargo of the vessel shall be discharged.

6. *Ports from which Ships arrive:—**

(Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

FOREIGN.—*Dunkirk*, Calais, Channel Islands.

COASTWISE.—*London*, Rochester, Newcastle, Hartlepool, Middlesbrough, Hull, Goole, Harwich, Colchester, Dover, Rye.

7. *Character of Trade:—**

(Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

FOREIGN.—*Imports.*—From French ports, straw, and from Channel Islands broken granite.

Exports.—None.

COASTWISE.—*Exports.*—Bricks, paper, cement, and farm produce.

Imports.—Coal, coke, straw, hay, timber, granite, ashes, chalk, and groceries.

No rags, passengers, immigrants, or transmigrants.

8. *Amount of Shipping inwards during three years*, 1890–91–92:—*

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	—	—	—	—	—	—
	Sailing	72	4,654	25	1,524	23	1,382
	Fishing	—	—	—	—	—	—
Total Foreign		72	4,654	25	1,524	23	1,382
Coastwise.	Steamers	6	309	16	1,596	104	6,316
	Sailing	5,334	216,816	5,657	230,603	5,442	222,871
	Fishing	—	—	—	—	—	—
Total Coastwise		5,340	217,125	5,673	232,199	5,546	229,187

In regard to matters of administration the only conditions in which material alteration was found to have been made at the date of the second inspection were as follows:—

(1.) It was proposed to moor the floating hospital in Faversham Creek at a point about midway between Oare Creek and the mouth of Faversham Creek and on the west side of the latter, near a place known as Harts Head.

* The nature and the total amount of traffic to the extended Port Sanitary District will be obtained by combining the information here given with that given for the Faversham Port Sanitary District before extension.

(2.) The Port Sanitary Authority had made arrangements for the interment of persons who might die of cholera.

(3.) Regulations under section 125 of the Public Health Act, 1875, had been drafted and submitted to the Board.

(4.) The Port Sanitary Authority proposed to adopt the Infectious Disease (Notification) Act, 1889, for their extended district.

Final Conference with the Faversham Port Sanitary Authority was held on April 26th, 1894, when formal recommendations were made with regard to the following matters:—

1. The necessity for regular and thorough inspection of all vessels entering the port.
2. The provision of sufficient and suitable hospital and ambulance accommodation.
3. The provision of suitable means for the conveyance of their inspecting officers by water.
4. The provision of a mortuary.
5. The steps to be taken to secure the medical inspection of all vessels entering the port.

Action taken by the Port Sanitary Authority since Inspection.

Steps taken with a view to the appointment of an additional Inspector of Nuisances; arrangements proceeding to obtain a galley boat for ambulance purposes, and for conveyance of inspecting officers, and application made for use of Faversham Navigation Commissioners' steam tug in case of need; mortuary to be erected on deck of floating hospital; an additional medical officer or a deputy medical officer to be appointed. [Letter from the Port Sanitary Authority dated May 4th, 1894.]

The Infectious Disease (Notification) Act, 1889, adopted by the new Port Sanitary Authority June 26th, 1894.

Regulations under section 125 of The Public Health Act, 1875, approved by the Local Government Board July 12th, 1894.

Blean Rural Riparian Sanitary District.

[Faversham Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* October 27th, 1893.

1. *Sanitary Authority:*—The Blean Rural Sanitary Authority.

2. *Limits of Jurisdiction.*—From the Coastguard station in the parish of Seasalter to Herne Bay Coastguard Station, and from a point opposite Herne Bay Waterworks to the most eastern point of the seaboard of the parish of Chislett. The limits of jurisdiction are satisfactory.

3. *Parishes of Sanitary District which are Riparian:*—Parishes of Seasalter, Whitstable, Swalecliffe, Herne (part), Reculver, and Chislett.

4. *General Character and Efficiency of Administration:*—Somewhat lax.

5. *Ports from whence Ships arrive:*—(Ports or places (British or foreign) with which Riparian District has more trade, or is in more frequent communication, are printed in *italics*):—

Newcastle, Sunderland, Seaham, Hartlepool, London, Leith, Hull, Amble, Cardiff, Swansea, Grimsby, Rochester, Kirkcaldy, Goole, *Ostend, Dunkirk,* Flushing, Bremerhafen, Guernsey, Havre, Cherbourg, Gravelines, Barfleur, Lannion, Abbeville, Arendal, Blankeholm, Carentan, Patras.

6. *Character of Trade.*—

Imports.—Coal, corn, stone, oil-cake, timber and valonia.

Exports.—Oysters and mussels. No rags, passengers, immigrants, or transmigrants.

8. *Inland Water Communication:*—None.

9. *Railways conveying goods from Riparian District:*—South Eastern Railway and London, Chatham, and Dover Railway.

Amount of Shipping Inwards during three years, 1890–91–92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	1	33	Nil.	—	Nil.	—
	Sailing	29	1,263	18	554	29	1,389
	Fishing	Nil	—	Nil	—	Nil	—
Total Foreign		30	1,296	18	554	29	1,389
Coastwise.	Steamers	Nil	—	Nil	—	Nil	—
	Sailing	679	70,648	687	70,178	778	71,420
	Fishing	—	—	—	—	—	—
Total Coastwise		679	70,648	687	70,178	778	71,420

There are about 120 fishing boats belonging to this district nearly all of which are small 2nd-class boats. All of them are engaged in alongshore fishing. There is no deep-sea fishing carried on by the boats belonging to the district, neither do any fishing boats arrive from sea which belong to other ports. Of the above-mentioned 120 boats about 50 are engaged during the autumn and winter in dredging for mussels and five-fingers, but no account is kept of the tonnage and number of such boats.

10. *Medical Officer of Health* :—Major Kirkby Robinson.

Qualifications :—M.D. Salary, 104*l.* 10*s.* per annum with repayment. Dr. Robinson also acts as Medical Officer of Health for the East Kent Combined District.

Character and efficiency of Port work done by Medical Officer of Health.—The Medical Officer of Health does excellent sanitary work in this as in his other districts. But the arrangement whereby inspection of vessels under the Cholera Regulations is to be made by this Officer, who resides at Dover, is not of a satisfactory nature.

11. *Inspector of Nuisances* :—Henry Thomas Sidwell. Qualifications : Certificate of the Sanitary Institution. Salary, 110*l.* per annum with repayment.

Mr. Sidwell is also Surveyor of Highways and of Building Byelaws to Blean Rural Sanitary Authority.

Character and efficiency of Port work done by Inspector of Nuisances.—Mr. Sidwell appeared to be quite conversant with the duties of his office.

12. *Nuisances* :—No record has been kept of inspections of shipping, save in a few instances where infectious sickness has been found to exist on board. The Inspector of Nuisances stated that he inspected all vessels from foreign, and coasting vessels "in cases of suspicion"; the Whitstable fishing fleet not at all. He further stated that he had never had occasion to serve written notices, inasmuch as he had always found verbal notice sufficient to ensure the performance of his instructions as regards abatement of nuisances.

13. *Isolation Hospital* :—The hospital is situated at West End, Herne, and is about 3½ miles distant from Whitstable; conveyance from ship to shore is effected by one of the vessels to be mentioned subsequently under *d*, conveyance from shore to hospital by a cab stripped of its lining and converted into an ambulance.

The hospital, erected in 1892, is constructed of brick and consists of two ward blocks, laundry, mortuary, and administrative block. Each ward block contains two wards, the total accommodation provided being 11 beds. There is room for further extension on the site. The water supply is from a well sunk on the site; depth of well 45 feet, with an iron tube going down another 45 feet, total depth 90 feet. Drainage is into a cesspool on the site, whence sewage is pumped on to an irrigation area on the site. Excrement disposal is by earth closets, of which the contents are subsequently disposed on the site.

14. *Disinfecting Apparatus* :—None provided.

15. *Mortuary* :—None at Whitstable or on coast line. There is, however, one at the infectious diseases hospital.

16. *Regulations under Section* 125 *Public Health Act*, 1875 :—None made.

17. *Infectious Disease* (*Notification*) *Act*, 1889 :—Adopted 1st February 1880.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

"Whitstable Bay." This is the Boarding Station for both foreign and coasting vessels.

Places of debarkation in the district :—*Whitstable*; *Swalecliffe* (very small barge traffic from London); *Seastreet Brickfields* (about ¾ mile east of Hampton pier—London barge traffic, some three or four a week). *Reculver*, occasional barge traffic with London. Coasters are occasionally boarded by the Customs or the Coastguard. Officers of the Sanitary Authority do not board coasters as a rule unless there is reason to suspect sickness on board. Procedure as regards boarding is the same by night as by day for foreign vessels; coasting vessels are not boarded by night unless there is special reason for doing so, *e.g.*, arrival from a port infected with cholera.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

A Customs Officer is in attendance only at Whitstable. The Coastguard board at the other places above mentioned, near each of which there is a coastguard station.

There is provision for detention at night as well as by day; an Officer of the Coastguard is always on duty by night as well as by day at all the places above mentioned.

Pilots.—There are no licensed Pilots at Whitstable or in the rest of the District. There are "mud-pilots" at Whitstable. No official instructions have been given to these, but the local Customs Officer has informed them they should not go on board a vessel with sickness on board, but should return and inform him of the fact.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

From Whitstable, the Customs will telegraph to the Medical Officer of Health, who resides at Dover, regarding Whitstable vessels; vessels with sickness on board at other places mentioned will be notified by special messengers from the Coastguard to the Whitstable Customs, who will then wire to the Medical Officer of Health.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

Arrangements have been made with a local shipowner at Whitstable whereby a steam tug, or a steam launch or a yacht or a row-boat will be at disposal of Sanitary Authority's Officer in consideration of 5*l.* 5*s.* 0*d.* retaining fee and 1*l.* 1*s.* 0*d.* per voyage.

e. Mooring Station :—

The mooring station has been fixed in the East Swale, outside the waters under the jurisdiction of Blean Rural Sanitary Authority. See the Board's Order of 21st July 1893, giving consent under Article 6 of Cholera Regulations.

f. Inspection of Vessels ("infected" or from "infected port") :—

Vessels "infected" or from an "infected port" are inspected by the Medical Officer of Health, who resides at Dover, and proceeds to the Riparian part of the district on receipt of telegram from the Customs.

g. Examination of Persons on Vessels ("infected" or from "infected port)" :—

Inquiries as to health on board is made of captain, and the ship's papers are examined. Actual medical examination is made if this seems desirable from information obtained from captain, or if any circumstance of suspicious sort transpire.

h. Address Book :—

No address book is kept.

i. Special Isolation Provision for Cholera :—

In addition to the hospital already described the Rural Sanitary Authority possesses tents, one marquee tent and five smaller Radcliffe tents, all in good condition; these would be erected either on the hospital site or on land nearer Whitstable.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None other than the hospital and the tents already described.

l. Means provided for transfer of Infected Persons from Ship to Hospital :—

See note *d.*

m. Arrangements made for disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods :—*

(*a.*) Treatment with boiling water.

(*b.*) Fumigation with sulphur and washing; addition of perchloride of mercury and carbolic to latrines and bilge water.

(*c.*) No other means than those already described.

n. Arrangements made as to the disposal of the Dead:—
None made.

o. Action as to Water Supply of Vessels from Infected Ports:—
Water casks or tanks are in all cases emptied and cleansed. Water is supplied at the expense of the Sanitary Authority from the mains of the water company at Whitstable; this is supplied at the quays, there being no water boats.

p. Action as to Bilges of Vessels from Infected Ports:—
The bilge water of these vessels is in all cases pumped out before the vessel enters harbour.

Final Conference with the Blean Rural Sanitary Authority was held on 26th April 1894, when formal recommendations were made with regard to the following matters:—

1. The necessity for securing the regular and thorough inspection of all vessels coming into the water under the jurisdiction of the Sanitary Authority.
2. The provision of sufficient and suitable hospital accommodation within a convenient distance of Whitstable.
3. The adoption of regulations under section 125 of the Public Health Act, 1875.
4. The steps to be taken in advance to secure in case of necessity the medical inspection of all vessels entering the district.

ACTION TAKEN BY THE RURAL RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

Instructions given for all ships from foreign and all ships from infected home ports to be inspected. Regulations under section 125 of the Public Health Act made and forwarded for the Board's approval. A deputy Medical Officer of Health, resident at Faversham, appointed to medically inspect vessels in cases of emergency.—[Letter from the Blean Rural Sanitary Authority, dated 8th June 1894.]

HERNE BAY URBAN RIPARIAN SANITARY DISTRICT.

[Faversham Customs Port (part of).]

Inspector: Dr. R. Bruce Low. *Date of Inspection:* September 4th, 1894.

This Riparian District is under the jurisdiction of the Local Board of Herne Bay. The coastline of the district extends from a point directly west of the Herne Bay Coastguard station, to a point east of the town, 420 feet east of the sewer outfall, where the urban boundary adjoins the Blean Rural District.

Shipping Trade:—

FOREIGN.—None.

COASTWISE:—*London*, Rochester, Sunderland, Seaham Harbour, and occasionally from other British Ports.

Imports.—Coal, manufactured articles.

Exports.—Bricks.

Amount of Shipping Inwards during three years 1890–91–92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	—	—	—	—	—	—
	Sailing	Nil	Nil	Nil	Nil	Nil	Nil
	Fishing	—	—	—	—	—	—
Total Foreign		—	—	—	—	—	—
Coastwise	Steamers	—	—	—	—	—	—
	Sailing	29	1,659	56	3,051	110	5,138
	Fishing	—	—	—	—	—	—
Total Coastwise		29	1,659	56	3,051	110	5,138

Goods are conveyed from this riparian district by the London Chatham and Dover Railway Company.

Chief Facts reported as regards Administration.—No riparian duties have hitherto been carried out either by the Medical Officer of Health (M. K. Robinson, M.D.) or by the Inspector of Nuisances (F. W. J. Palmer). The Sanitary Authority in 1891 purchased a semi-detached block comprising two cottages to afford accommodation for the isolation of persons suffering from infectious disease. These cottages are situate about three-quarters of a mile from the shore; each cottage has five small rooms and a kitchen, and an outdoor hand-flushed watercloset. The waterclosets drain into a cesspool situate 30 feet from the building. Town water was laid on at the time of inspection. A new site some 600 yards from the above had been provisionally purchased by the Sanitary Authority subject to sanction by the Local Government Board of a loan of 500*l*. This site comprises four acres of land situate on the outskirts of the town in the Blean Rural District. The Authority stated that it proposed to erect tents on the site in the event of the district being invaded by cholera. The Sanitary Authority does not possess an ambulance and has not provided either a disinfecting apparatus or a mortuary. No regulations have been made under section 125 of the Public Health Act, 1875. The Infectious Disease (Notification) Act, 1889, was adopted December 1st, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—Only one jetty or landing stage for small boats; vessels have to be beached to unload. There is no Customs Station. The Coastguard act for Revenue purposes under the Customs Officers at Ramsgate.

b. Arrangements as to Detention of Vessels by Officers of Coastguard and by Pilots:—Chief Officer in charge of Coastguard would detain any vessel till the arrival of the Medical Officer of Health.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health:—By telegraph to Dover, where the Medical Officer of Health resides.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships:—Coastguard galley.

e. Mooring Station:—None selected at date of inspection.

f. Inspection of Vessels ("infected" or from "infected port"):—The Medical Officer of Health would inspect all such reported to him.

g. Examination of Persons on Vessels ("infected" or from "infected ports"):—The Medical Officer of Health would medically inspect all persons on board.

h. Address Book:—None provided.

i. Special Isolation Provision for Cholera:—None, but Sanitary Authority stated that it would erect tents on the piece of ground provisionally purchased as a hospital site.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—None made.

l. Means provided for transfer of Infected Persons from Ship to Hospital:—Ship's boat to shore and a cab as ambulance to the hospital.

m. Arrangements made for disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods*:—

(*a.*) Destruction of clothing by burning.
(*b.*) Fumigation of ship by sulphur.
(*c.*) No arrangements for disinfecting goods.

n. Arrangements as to the Disposal of the Dead:—The Medical Officer of Health stated that he would order the corpse to be properly prepared and taken out by crew, under direction of the captain, a sufficient distance to sea and buried at sea.

o. Action as to Water Supply to Vessels from Infected Ports:—Water casks would be emptied and disinfected.

p. Action as to Bilges for Vessels from Infected Ports:—Bilges would be pumped out and in the case of wooden ships disinfected with corrosive sublimate solution, and iron ships with solution of carbolic acid.

Final Conference with the Herne Bay Urban Riparian Sanitary Authority was held on September 23rd, 1894, when formal recommendations were made with regard to the following matters:—

1. The provision of a suitable isolation hospital.
2. The special duties devolving upon the Sanitary Authority under the Cholera Orders.

ACTION TAKEN BY THE URBAN RIPARIAN AUTHORITY SINCE INSPECTION.

The Authority have made application to the Local Government Board for sanction to borrow 500*l.* to purchase a site for an isolation hospital. [Letter from Sanitary Authority dated February 1st, 1895.]

MARGATE URBAN RIPARIAN SANITARY DISTRICT.

[Ramsgate Customs Port (part of).]

Inspector: Dr. R. Bruce Low. *Date of Inspection:* August 6th, 1894.

This Riparian District is under the jurisdiction of the Town Council of the Borough of Margate. The coastline, which is about three miles in length, extends from a point near the hamlet of Rancorn, in the Isle of Thanet Rural District on the west, to a gap west of "Hodge's flagstaff" on the east.

Shipping Trade:—

The arrivals are almost confined to barges from the Thames with timber or general cargoes, and to vessels from River Tyne, Seaham, and Hartlepool with coals; more rarely a steamer with tar from Selsette or Cherbourg. Occasionally yachts from Ostend or Dunkirk. In the summer there is considerable passenger traffic daily between London and Margate, and on several days in each week, between Margate and Boulogne. Passengers also travel by steamer to Dover and Ramsgate in summer.

Amount of Shipping Inwards during Three Years, 1890-91-92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	4	658	—	—	—	—
	Sailing	1	134	3	222	6	528
	Fishing	—	—	—	—	—	—
Total Foreign		5	792	3	222	6	528
Coastwise	Steamers	112	35,264	111	36,564	109	34,699
	Sailing	242	15,256	225	14,666	227	14,913
	Fishing	—	—	—	—	—	—
Total Coastwise		354	50,520	336	51,230	336	49,612

Goods are conveyed from this Riparian District by the South-Eastern and by the London, Chatham, and Dover Railways.

Chief Facts reported as regards Administration.—Neither the Urban Medical Officer of Health (H. W. Scatliff, L.R.C.P. & S.E., D.P.H.) nor the Urban Inspector of Nuisances (Herbert Balster) had, prior to the inspection, carried out any riparian duties.

The Margate Urban Sanitary Authority combined with Ramsgate and Broadstairs Urban Sanitary Authorities and the Isle of Thanet Rural Sanitary Authority to provide an isolation hospital in 1880. There are three pavilions comprising 44 beds, one pavilion with 10 beds being devoted to small-pox. Recently a Conjoint Board has been formed, and negotiations were, at the time of inspection, in progress with a view to secure a larger site on which to erect a suitable isolation hospital, as the present provision is inadequate. The present hospital is 2½ miles from the landing stage at Margate. There is no room for expansion on the site. The buildings are of wood and iron, the water supply is from the Ramsgate public supply, and the hospital drains are connected to the Ramsgate borough sewers. Waterclosets with flushing boxes are provided. Means are provided for disinfecting discharges before entering the borough sewers. There is a laundry, a disinfector, and an ambulance at the hospital.

There is a Washington Lyons disinfector at the town yard in Margate, situated about half a mile from the landing stage. No mortuary has been provided.

The Infectious Disease (Notification) Act, 1889, was adopted on April 1st, 1890. No regulations have been drawn up under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—All vessels are boarded before entering Margate Harbour by the Coastguard, acting for revenue purposes on behalf of the Customs.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots.—The Chief Officer of Coastguard at Margate has the quarantine certificate. He would detain any vessels having sickness on board, or coming from an "infected port," till the arrival of the Medical Officer of Health, with whom he would at once communicate whenever such vessel came into Margate Harbour.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—By special messenger.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—Coastguard galley (four-oared boat).

e. Mooring Station.—Station fixed 1 mile off shore N.E. of Margate Lighthouse, after conference between Medical Officer of Health and the Chief Officer of Customs.

f. Inspection of Vessels ("infected" or from "infected port").—Medical Officer of Health would inspect all vessels brought under his notice.

g. Examination of Persons on Vessels ("infected" or from "infected port").—Medical Officer of Health would medically inspect all persons on board such vessels.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—The Sanitary Authority had arranged with the foreman of the Borough scavenging department to vacate his house at the town yard should a case or cases of cholera occur in Margate. This house has three rooms and a kitchen on the ground floor and four bedrooms above. The watercloset is situate in the yard, and the town water is laid on. The Sanitary Authority also stated, that if farther accommodation were needed, it had a large workshop which could be fitted up as a temporary hospital.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Practically none. But the Medical Officer of Health stated that if suspicious cases developed on board ship he would keep them under medical supervision till the diagnosis was clear.

l. Means provided for transfer of infected Persons from Ship to Hospital.—Ship's boat to shore and town ambulance to the house in the town yard.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods.—Disinfection of clothes at the town disinfector, and fumigation of ship with sulphur.

n. Arrangements as to the disposal of the Dead.—The Medical Officer of Health stated that the bodies of those dying on shore would, after being wrapped in a sheet soaked in carbolic acid, be placed in a coffin and then a large quantity of disinfecting powder added to fill up the coffin and afterwards buried in the cemetery. Sailors dying on vessels would be sent out to sea under direction of captain, and committed to the deep with the usual precautions.

o. Action as to Water Supply of Vessels from Infected Ports.—The Medical Officer of Health stated that he would direct the water casks to be emptied and disinfected.

p. Action as to Bilges of Vessels from Infected Ports.—The Medical Officer of Health stated that he would direct bilges to be pumped out into the sea.

Final Conference with the Margate Urban Riparian Sanitary Authority was held on September 22nd, 1894, when recommendations were given generally as to the proper carrying out of the Board's Cholera Orders.

ACTION TAKEN BY THE URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

In reply to a letter sent by the Board asking what action had been taken, the Town Clerk replied on March 6th, 1895, that the Committee were giving the matter attention.

Sandwich Port Sanitary District.

[Ramsgate Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* May 31st, 1893.

Date of Order *permanently* constituting Port Sanitary District: June 13th, 1888.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is the Mayor, Aldermen, and Burgesses of the Borough of Sandwich acting by the Council. It exercises Port functions in waters abutting upon the Rural Sanitary Districts of Isle of Thanet and of Eastry, as well as upon the Sandwich Urban Sanitary District.

2. *Limits of Jurisdiction:—*

So much of the Port of Ramsgate "as comprises the River "Stour from the most westerly point at which it touches the "boundary of the Borough of Sandwich to a straight line "drawn across the said river from Shellness Point to Pepper-"ness, together with the waters,"* &c.

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Sandwich Urban Sanitary District. Parishes:—St. Peter, St. Mary, and St. Clement.

Isle of Thanet Rural Sanitary District. Parishes:—Minster and Stonor.

Eastry Rural Sanitary District. Parish:—Worth.

4. *Apportionment of Expenses:—*

Borne wholly by the Borough of Sandwich.

5. *General Character and Efficiency of Administration:—*

This Port Sanitary Authority does not fully realise its responsibilities. Extremely small official salaries, and almost entire absence of administrative plant are the principal characteristics of the Sandwich Port Sanitary District organisation.

6. *Ports from whence Ships arrive.* (Ports or places (foreign and coastwise) with which the Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

FOREIGN.—*Cherbourg, Guernsey,*

COASTWISE.—*London,* Harwich, *Sunderland, Newcastle.*

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* See footnote, page 89, *ante.*

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports. Granite.
Exports. Hay.
No passenger trade, rags, immigrants, or transmigrants.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	—	—	—	—	—	—
	Sailing	8	602	5	414	5	421
	Fishing	—	—	—	—	—	—
Total Foreign		8	602	5	414	5	421
Coastwise	Steamers	—	—	—	—	—	—
	Sailing	106	6,628	104	6,666	130	8,436
	Fishing	—	—	—	—	—	—
Total Coastwise		106	6,628	104	6,666	130	8,436

9. *Inland Water Communication :—*

There is inland water communication by river (the Stour) as far as Grove Ferry, to which a few barges, mostly carrying bricks and manure, proceed. The Inspector of Nuisances of the Sandwich Port Sanitary Authority occasionally inspects these barges at Sandwich.

10. *Lines of Railway conveying Goods from Port :—*

South-Eastern Railway.
South-Eastern and London Chatham and Dover Joint Stock Railway.

11. *Medical Officer of Health :* John William Harrisson.

Qualifications :—M.B., C.M. Salary, 5*l.* per annum ; without repayment.
Dr. Harrisson also acts as Medical Officer of Health to the Sandwich Urban Sanitary District.
Character and efficiency of work done by the Medical Officer of Health :—Under ordinary circumstances the Port work done by Medical Officer of Health is small in amount ; as, indeed, might be anticipated when regard is had to the smallness of his salary.

12. *Inspector of Nuisances :* Alfred Jarman Catt.

No sanitary certificate.
Mr. Catt is also Inspector of Nuisances and Surveyor to the Sandwich Urban Sanitary District, Superintendent of Sandwich Cattle Market, Collector of Tolls, Harbour Master and Water Bailiff, Manager of Allotments and Collector of Rents, Keeper of Walks, Delph, and Streams, Inspector of Explosives, Inspector of Petroleum, Collector of Borough Rates, Collector and Receiver of Coal Duties.

Character and efficiency of work done by Inspector of Nuisances:—

Mr. Catt is a careful and intelligent officer.

No separate salary is paid to the Port Inspector of Nuisances as such, but the salary Mr. Catt receives as Harbour Master (paid by the Corporation of Sandwich) is considered to be in part paid him for discharging the duties of Port Inspector of Nuisances.

13. *Nuisances:*—

The Inspector of Nuisances stated that he usually inspected foreign vessels; and that he inspects an uncertain proportion, not exceeding 50 per cent., of coasting vessels. No record, however, had been kept of these inspections. The orders issued had been verbal, and of these also there was no record.

14. *Isolation Hospital:*—

None provided.

15. *Disinfecting Apparatus:*—

None provided.

16. *Mortuary:*—

The Port Sanitary Authority possesses a mortuary situated on the banks of the Stour at Sandwich. It is 21 feet × 10 feet × 9·6 feet. It is built of stone and brick, with concrete floor, is undrained, and is well lighted and ventilated.

17. *Regulations under Section* 125 *Public Health Act,* 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act,* 1889:—

This Act was adopted by the Port Sanitary Authority, June 1891.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

"At the entrance of the harbour of Sandwich." This is the boarding station for all vessels whether coasters or from foreign.

The only place of debarkation in the Port Sanitary District, in addition to Sandwich town, is a collection of two or three houses known as Saltpans, where occasional cargoes of coal are landed for the use of the Sandwich Corporation's steam tug.

All vessels are boarded on arrival at the boarding station, whether they come from foreign or coastwise by the coastguard stationed at the entrance of the Stour, where there is an officer or officers on duty by night as well as by day. No Customs Officer is stationed at Sandwich. The procedure as regards boarding is the same by night as by day; and detention when required would be carried out by night as well as by day.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots :—

The Coastguard will detain vessels, when necessary, at the boarding station.

There are no pilots at Sandwich. Vessels are usually taken charge of in Pegwell Bay and towed up the Stour by the Sandwich Haven tug, which is under the charge of the Inspector of Nuisances to the Port Sanitary Authority in his capacity of Harbour Master.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Coastguard, on detaining a vessel, would send a special messenger to the Medical Officer of Health, who resides at Sandwich, about three miles distant from the Boarding Station.

d. Means provided, or facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Corporation of Sandwich, as the Sandwich Haven Commissioners, owns a steam tug, which would be placed at the disposal of the Medical Officer of Health if it should not be required for other purposes. It might not, however, always be available. In the past the Medical Officer of Health has sometimes driven to the Boarding Station (three miles from Sandwich) and thence taken boat at his own expense.

e. Mooring Station :—

The Mooring Station is defined as "a flat on the north bank of "the river Stour (Sandwich Haven) nearly opposite Shellness "Point, from which it bears about N.W." It has been approved of by the Chief Officer of Customs of Ramsgate Port, and is satisfactory.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health will inspect all "infected" vessels and all vessels from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

Medical examination will be made of persons on "infected" vessels and on vessels from "infected ports."

h. Address Book :—

No address book kept.

i. Special Isolation Provision for Cholera :—

None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None.

l. Means provided for transfer of Infected Persons from Ship to Hospital :—

None.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods* :—

(*a.*) Sulphur fumigation. Treatment with liquid disinfectants and washing.

(*b.*) Sulphur fumigation and washing of woodwork.

(*c.*) Such of the above methods as may be applicable.

n. Arrangements made as to the Disposal of the Dead :—

At the time of inspection no steps had been taken to provide for interment of Cholera dead in any cemetery.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Board's Order on this point will be put into force by the Medical Officer of Health when in his opinion necessary. Water will be supplied by and at the cost of the Sandwich Port Sanitary Authority from the Sandwich public supply.

p. Action as to Bilges of Vessels from Infected Ports :—

The Board's Order on this point will be put in force by the Medical Officer of Health when in his opinion requisite. The bilge will be pumped out, disinfectant solution added, and the bilge again pumped out.

Final Conference with the Sandwich Port Sanitary Authority was held on June 9th, 1893, when formal recommendations were made with regard to the following matters :—

1. The systematic inspection, under the Public Health Acts, of all vessels arriving in the district.
2. The provision of sufficient and suitable hospital accommodation, and of means for the safe conveyance of patients from ship to hospital.
3. The need for arrangements, made in advance, to secure the medical inspection of all vessels entering the Port in the event of an extension of Cholera in Western Europe.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Arrangements made for the regular and thorough inspection of all vessels coming into the Haven, and for the provision, in case of need, of accommodation for the treatment of infectious cases introduced into or occurring within the district. [Letter from the Port Sanitary Authority, dated August 19th, 1893.]

Deal Port Sanitary District.

[Dover Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* June 2nd, 1893.

Date of Order *permanently* constituting Port Sanitary District: November 28th, 1887.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Dover (Deal Division) Port Sanitary Authority," and consists of six representative members, three from Deal Urban Sanitary Authority, and three from Walmer Urban Sanitary Authority chosen by the members of each of the said authorities respectively. It exercises port functions in waters abutting upon the Urban Sanitary Districts of Deal and Walmer.

2. *Limits of Jurisdiction:—*

"So much of the Customs Port of Dover as abuts upon the Urban Sanitary Districts of Deal and Walmer, together with the waters,"* &c.

The limits of jurisdiction are satisfactory.

3. *Riparian Districts* (wholly or in part) *in the Port Sanitary District:—*

Deal Urban Sanitary District:—The whole.
Walmer Urban Sanitary District:—The whole.

4. *Apportionment of Expenses:—*

Deal Urban Sanitary Authority and Walmer Urban Sanitary Authority contribute in equal proportions.

5. *General Character and Efficiency of Administration:—*

The administration of this Port Sanitary District is lax. The entire absence of hospital and ambulance provision and the existence of other shortcomings noted in the course of this report show failure in the past of the Sanitary Authority to properly comprehend and discharge its duties.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

London, *Ramsgate*, *Dover*, and *Boulogne*. Traffic with the three last places is almost entirely during summer months.

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* See footnote, page 89, *ante*.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants. &c.) :—

There is a small sailing trade to and from London; general goods, in; and preserved peas and fish, out.

Steam traffic· Excursion boats carrying passengers between Deal and Ramsgate, Dover, and Boulogne. The Boulogne boats return on same day as that of departure; passengers are said to rarely remain overnight in France.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	4	545	19	988	56	5,173
Foreign { Sailing	Nil.		Nil.		Nil.	
Foreign { Fishing	Nil.		Nil.		Nil.	
Total Foreign	4	545	19	988	56	5,173
Coastwise { Steamers	67	21,729	140	29,207	223	36,102
Coastwise { Sailing	28	336	22	264	32	638
Coastwise { Fishing (along shore only).	Nil.		Nil.		Nil.	
Total Coastwise	95	22,065	162	29,471	255	36,740

The following information with regard to shipping was supplied to the Inspector by the Officer of Customs at Deal:—

"There being no harbour, dock, wharf, or landing accommodation here, there is consequently very little trade; if the excursion passenger traffic coastwise and to Boulogne in the summer months be excepted. Landing and embarkation can be effected at the Pier Head—a structure on piles mainly for promenading purposes.

"The open roadstead of the Downs, where vessels of all sizes can and do anchor for shelter, &c., however, is liable at any time to be visited by a vessel with contagious disease on board; therefore its proximity to the shore renders the strict observance of all matters pertaining to quarantine a very important matter. Since the epidemic of cholera has become somewhat prevalent at certain Continental Ports, whenever an arrival in the Downs of a vessel from an infected area is ascertained through the signal station, or any other source, particulars are forthwith communicated to the Medical Officer of Health for the district, who invariably proceeds to and inspects her, and, unless authorised by him, persons from out of such ships are prevented from landing by the coastguard and Customs officers conjointly. But there is no boarding by Revenue officers of vessels anchored in the Downs, unless for special revenue reasons, the revenue being guarded mainly on shore. Every effort is, however, always—night and day—used to prevent the introduction of contagious disease into the district."

9. *Inland Water Communication* :—

None.

10. *Lines of Railway conveying Goods from Port :—*

The Deal and Dover Railway Company, and the South-Eastern Railway Company.

11. *Medical Officer of Health :* Alexander Bruce Payne.

Qualifications :—M.R.C.S., L.R.C.P. Salary, 10*l.*, without repayment. This salary is a retaining fee paid to the Medical Officer of Health, who, in addition, receives 10*s.* 6*d.* for each inspection made, with payment of expenses incurred. Mr. Payne also acts as Medical Officer of Health to Deal Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—

The Medical Officer of Health is an energetic officer. During the prevalence of cholera on the Continent in 1892 he gave a good deal of time to the inspection of vessels lying in the Downs off Deal and Walmer.

12. *Inspector of Nuisances :* Robert Wilkins Redman.

No sanitary certificate Salary, 5*l.* a year, without repayment. Mr. Redman also acts as Inspector of Nuisances and Borough Surveyor to the Deal Urban Sanitary District, and Inspector of Petroleum Licenses.

Character and efficiency of work done by Inspector of Nuisances :—

The work done by the Inspector of Nuisances in his Port capacity has hitherto been of small amount.

13. *Nuisances :—*

No sanitary inspection of vessels has hitherto been made by the Inspector of Nuisances. Under ordinary circumstances, sanitary inspection of vessels lying in the Downs is scarcely to be looked for. But the sailing vessels trading to Deal should be supervised by the Inspector of Nuisances. Steamers touching at Deal ordinarily stay there only long enough to put off and take on passengers, and, accordingly, sanitary inspection of these is not, ordinarily, to be looked for.

14. *Isolation Hospital :—*

None.

But the Port Sanitary Authority proposes to contribute towards the maintenance of the Infectious Diseases Hospital, which the Deal Urban Sanitary Authority contemplates erecting. This hospital will, accordingly, be available for cases of infectious disease occurring within the waters under the jurisdiction of the Port Sanitary Authority. The said hospital, however, was at the time of inspection merely in contemplation. Meantime the Port Sanitary Authority is entirely without hospital provision. The Port Sanitary Authority has no ambulance for conveyance of patients either by water or by land.

15. *Disinfecting Apparatus :—*

The Port Sanitary Authority has no disinfecting apparatus. But the Deal Urban Sanitary Authority possesses a Steam Disinfecting Chamber, which would be available for use by the Port Sanitary Authority on payment of a fee in each instance. This apparatus is situated about half a mile from Deal Pier.

16. *Mortuary* :—

The Port Sanitary Authority has no mortuary; but the Deal Urban Sanitary Authority has a mortuary situated near Deal Pier. This is placed at the disposal of the Port Sanitary Authority free of charge.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

"In the Downs in open roadstead." Order $\frac{43}{1876}$.

Deal Pier is the only place of debarkation in the district. Landing for small boats is possible along the whole coastline of the Port Sanitary District, save in rough weather. The boarding station is the same whether the vessel to be boarded has come from foreign or is a coaster. Coasting vessels are not, unless for special revenue reasons, boarded on touching at Deal Pier. Vessels lying in the Downs are never, unless for special revenue reasons, boarded by Customs, whether such vessels be coasters or have come from foreign. But all boats (from vessels lying in the Downs) attempting to hold communication with the shore are boarded by either Customs or Coastguard, who make inquiries as to state of health on board vessel and as to whence the vessel they belong to has come. If there is said to be sickness on board the vessel, or if she have come from a port regarded as cholera-infected, the boat is detained and the Medical Officer of Health communicated with. The Medical Officer of Health then visits the vessel and makes inspection thereof, after which no person is allowed to land from that vessel without showing to Coastguard or Customs a certificate to the effect that in the Medical Officer of Health's opinion communication may safely be held between ship and shore. The same routine is adopted in the case of boats from shore that may have boarded any vessel in the Downs; on their return they are, under circumstances already set forth, detained until the arrival of the Medical Officer of Health, who inspects the vessel, and, if necessary, notes addresses and keeps under observation the persons who have boarded. Procedure as regards boarding is the same by night as by day; there are always several coastguardsmen on duty along the coast by night, as well as a Customs officer at Deal.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Vessels will, when necessary, be detained by Customs or Coastguard.

Pilotage.—There is a pilot station at Deal, which is directly under Trinity House control. The Deal pilots take

charge of vessels at Dungeness, and proceed with them usually as far as the Nore. The inspector could not ascertain that any particular instructions having reference to cholera had been issued by Trinity House to these pilots.

There are a good many unlicensed pilots at Deal.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Medical Officer of Health, who resides at Walmer, will be communicated with either by telephone or by special messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority has no boat or launch at its disposal. The Medical Officer of Health hires boats when need arises, and the cost of hiring is repaid to him by the Port Sanitary Authority.

e. Mooring Station :—

At the time of the inspector's visit on June 2nd no mooring station had been agreed upon.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health stated that he would inspect all vessels regarded as "infected," as well as all vessels from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

In the case of vessels boarded, as described under the foregoing heading, examination would be made of all persons on board.

h. Address Book :—

None kept.

i. Special Isolation Provision for Cholera :—

None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Steam disinfecting chamber in Urban Sanitary District.
(*b.*) Sulphur fumigation; and subsequent washing of woodwork.
(*c.*) Such of the foregoing means as might be applicable.

n. Arrangements made as to the Disposal of the Dead :—

There is a public cemetery at Deal (in Deal parish), and a parish churchyard in Walmer Urban Sanitary District. No

arrangements had, at the time of inspection, been made with the authorities of these burial-grounds for reception of cholera dead.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Port Sanitary Authority does not propose to expend the money that would be necessary for the carrying out of the Board's order on this point. It usually costs 26*s.* per ton to supply water to vessels lying in the Downs.

p. Action as to Bilges of Vessels from Infected Ports :—

The Board's order on this point will be carried out when, in the opinion of Medical Officer of Health, requisite. In these instances the bilge would be pumped out, liquid disinfectant added, and the bilge again pumped out.

Final Conference with the Deal Port Sanitary Authority was held on June 7th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of a proper hospital and ambulances.
2. The provision of suitable means for the conveyance by water of the inspecting officers of the Authority.
3. The adoption of the Infectious Disease (Notification) Act, 1889.
4. The fixing of a suitable mooring station.
5. The steps to be taken beforehand to secure, in the event of any marked extension of cholera in Europe, the medical inspection of all vessels entering the port and also of vessels lying in the Downs.

ACTION OF THE PORT SANITARY AUTHORITY SINCE INSPECTION.

A temporary hut erected for the reception of patients suffering from infectious disease : decision arrived at by the Authority to purchase an ambulance. [Annual Report of the Medical Officer of Health for 1893.]

The Infectious Disease (Notification) Act, 1889, adopted by the Deal Port Sanitary Authority September 18th, 1893.

Mooring station fixed, being outside district, was sanctioned by Special Order of Local Government Board, dated September 14th, 1894.

DOVER URBAN RIPARIAN SANITARY DISTRICT.

[Dover Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* March 24th, 1893.

1. *Sanitary Authority.*—"The Mayor, Aldermen, and Burgesses of the Borough of Dover, acting by the Council."

2. *Limits of Jurisdiction.*—The westward riparian boundary of the Urban Sanitary District is "at a point about 50 yards west of the easternmost shaft of the Shakespeare Tunnel (South Eastern Railway)." The riparian boundary eastward is the Castle Jetty. The limits of jurisdiction are satisfactory.

3. *Parishes of Sanitary District which are Riparian:*—

Parishes.—Part of parishes of Guston, of St. James, of St. Mary, and of Eastcliff.

4. *General Character and Efficiency of Administration.*—This authority is not active in the discharge of its duties. Notably it has a very imperfect conception of the amount and character of supervision that should be exerted over the shipping that comes within its riparian waters. The present staff intended to inspect vessels is, in view of the other duties devolving on them, insufficient for this purpose.

5. *Ports from whence ships arrive.* (Ports or places (British or foreign) with which Customs District has more trade, or is in more frequent communication are printed in *italics.*)—*Calais, Ostend,* Black Sea Ports, Baltic Ports, Channel Islands. *London, Tyne Ports, Hull, Hartlepool,* Harwich, Ipswich, Rye, Ramsgate, Penryn, Port Madoc.

Passenger and cargo steamers from *London, Ramsgate, Deal, Glasgow, Waterford, Southampton, Ostend, Calais,* and *Newhaven.*

6. *Character of Trade:*—

FOREIGN.—Imports and exports to Calais and Ostend: general cargoes and passengers: rags occasionally: a large passenger traffic.

Grain imported from Black Sea Ports, and timber from Baltic, and stone from Channel Islands.

COASTWISE.—Mainly coal from the Tyne and Hull, and grain and flour from London.

Chalk shipped coastwise to other ports.

7. *Amount of Shipping Inwards during Three Years,* 1890-91-92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	2,983	782,908	3,020	820,172	3,096	788,033
	Sailing	42	6,938	35	4,928	28	7,754
	Fishing	—	—	—	—	—	—
Total Foreign		3,025	789,846	3,055	825,100	3,114	795,787
Coastwise	Steamers	199	56,861	314	89,950	592	121,767
	Sailing	645	51,251	523	45,600	521	44,473
	Fishing	—	—	—	—	—	—
Total Coastwise		844	108,112	837	135,550	1,113	166,240

8. *Inland Water Communication.*—None.

9. *Railways conveying Goods from Riparian District.*—London Chatham and Dover Railway, South Eastern Railway, conjoint London Chatham and Dover and South Eastern Railways (Dover and Deal Line).

10. *Medical Officer of Health.*—Major Kirkby Robinson. Qualifications: M.D. Dr. Robinson also acts as Medical Officer of Health for the East Kent Combined Sanitary District consisting of four Urban (of which Dover Urban is one) and eight Rural Authorities. Total salary is 1,000*l.* per annum, out of which sum expenses have to be met.

Character and efficiency of port work done by Medical Officer of Health.—This Medical Officer of Health, although a capable and energetic officer, has not at his disposal sufficient time to enable him to thoroughly discharge the duties which proper supervision of the shipping of Dover would entail. More especially would this be the case should cholera approach sufficiently near to necessitate regular medical inspection of all vessels entering Dover Harbour.

11. *Inspector of Nuisances.*—Frederick Sims. No sanitary certificate. Salary, 156*l.* per annum with repayment. Mr. Sims devotes his whole time to his duties.

Character and efficiency of Port work done by Inspector of Nuisances.—The Inspector of Nuisances is an old man who is, by reason of years, incapable of discharging properly the duties of his office. The Sanitary Authority recognising this, permits him to pay, at his own cost, an assistant 2*l.* per week. This assistant, however, is also an old man and is lame to boot. This latter defect renders it difficult for him to inspect shipping, which is looked after by the Inspector of Nuisances himself to the extent noted below.

12. *Nuisances.*—Habitual efficient dealing with, as regards shipping. During the three years, 1890–91–92, from 0·2 to 0·4 per cent. of foreign vessels and from 2·5 to 6·5 per cent. of coasting vessels coming within the waters under the jurisdiction of the Sanitary Authority were inspected by their officers.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	1	—	—
		Sailing	—	—	—
		Fishing	5	—	—
		Total Foreign	6	—	—
	Coastwise	Steamers	2	—	—
		Sailing	8	—	—
		Fishing	10	—	—
		Total Coastwise	20	—	—
1891	Foreign	Steamers	2	—	—
		Sailing	1	—	—
		Fishing	10	—	—
		Total Foreign	13	—	—
	Coastwise	Steamers	6	—	—
		Sailing	18	—	—
		Fishing	5	—	—
		Total Coastwise	29	—	—

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign -	Steamers - - -	5	—	—
		Sailing - - -	5	—	—
		Fishing - - -	2	—	—
		Total Foreign -	12	—	—
	Coastwise	Steamers - - -	12	—	—
		Sailing - - -	47	—	—
		Fishing - - -	15	—	—
		Total Coastwise -	74	—	—

13. *Isolation Hospital.*—The Urban Sanitary Authority has been searching for some time past for a site suitable for a cholera hospital, near the coast; this it has failed to get. But a site of about 2 acres in extent, at "Cow-Pasture," a spot about 1½ miles from the coastline and from docks and quays and situated on the west side of the road leading from Dover to Whitfield, had been obtained for 20*l.* for one year from 3rd September 1892. It is outside the Urban Sanitary District. But at the date of inspection difficulties had arisen, and it was doubtful whether this agreement would be kept by the lessor.

Ambulance Provision.—The Urban Sanitary Authority has no boat, and would, it is stated, hire one if considered necessary. For land transport the Sanitary Authority has a horse ambulance as well as a hand ambulance.

14. *Disinfecting Apparatus:*—

There is a Washington Lyons' steam disinfecting apparatus at the Urban Hospital for Infectious Diseases, which is some 1½ miles from docks.

15. *Mortuary.*—There is a mortuary at the Urban Hospital, and a public mortuary at the harbour.

16. *Regulations under Section* 125 *Public Health Act*, 1875.—None made.

17. *Infectious Diseases* (*Notification*) *Act*, 1889.—This Act was adopted by the Urban Sanitary District on October 15th, 1889, and came into force in the district on 1st January 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—"The Outer Harbour." As a matter of practice all vessels except Ostend and Calais boats, which are boarded alongside the Admiralty Pier, are boarded at the entrance to the harbour, within the piers.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—If a vessel boarded by the Customs or the Coastguard had a case of suspicious sickness on board, the boarding officer would detain the vessel and communicate with the Medical Officer of Health. Pilots have instructions to detain vessels under similar circumstances and to signal the cause of detention to the Customs.

Pilots.—Few vessels are piloted into Dover other than the Calais and Ostend steamers, and the captains of these possess pilotage certificates. Occasionally small vessels are piloted in by "hobblers" or unlicensed pilots. There are no subcommissioners of pilotage at Dover, but there is a Trinity House Pilotage Station. The Inspector interviewed a Pilot at this station, and was informed by him that he had been instructed, in 1892, by the Superintendent of the station, not to bring any vessel into Dover should there be a case of suspicious sickness on board, but to stand off and to signal to the Customs. This pilot stated that he was instructed, at the same time as he received the

foregoing instructions, to ask the captain of the vessel as soon as he boarded her regarding the state of health of all on board vessel. These instructions, he stated, still held good at the date of inspection.

The Pilots stationed at Dover are mostly taken on there to pilot vessels to London and other ports. It may be noted here that pilots from foreign are sometimes dropped at Dover, and also that such Pilots dropped at Dungeness often make their way home *viâ* Dover.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—By message sent by telephone and by special messenger to the Medical Officer of Health who resides at Dover.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—No launch or boat belongs to Dover Urban Sanitary Authority. The Medical Officer of Health has to hire a boat or to go in the Customs boat.

e. Mooring Station.—The mooring station is situated in Dover Bay and is an alternative one, being about half a mile from shore and either east or west of the Admiralty Pier, according to wind and weather. Vessels moored there will, should they be exposed to risk by foul weather, be permitted to run for shelter to Dover or elsewhere, on their signalling their intention and the place they propose to make for.

The mooring station is situated within Dover Customs Port and the waters of the Urban Sanitary District, and has been approved of by the Chief Collector of Customs of Dover Port. It is the best that can be had.

f. Inspection of Vessels ("infected" or from "infected port").—One "infected" vessel and several vessels from "infected ports" were inspected during 1892. In future inspection will be made of all vessels regarded as infected or coming from a port regarded as infected.

g. Examination of Persons on Vessels ("infected" or from "infected ports").—A complete "medical" examination of persons on these vessels will be made only when such persons are suffering from suspicious sickness. A medical inspector will, however, attend the arrival of all these vessels and will make inquiries as to health on board and observe passengers as they land.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—None other than that already described.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—See under *i*.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—None.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods.*—

(*a.*) A steam disinfecting chamber at the Infectious Diseases Hospital; boiling; steeping in disinfectant solutions.

(*b.*) Fumigation with sulphur; washing infected compartments with perchloride of mercury solution; disinfection of bilge.

(*c.*) Such of those measures mentioned under (*a*) and (*b*) as may be applicable.

n. Arrangements made as to the disposal of the Dead.—There are several cemeteries in Dover, under the control of Burial Boards. The Urban Sanitary Authority anticipated no difficulty as regards interment of cholera dead.

o. Action as to Water Supply of Vessels from Infected Ports.—The Board's Order was enforced occasionally in 1892. The Dover Corporation water is supplied free of charge. Vessels come alongside a quay to receive this water. There are no water boats to convey water to vessels not lying at quays.

p. Action as to Bilges of Vessels from Infected Ports.—The Board's Order on this subject was enforced during 1892 on several occasions. The bilge was pumped out, solution of perchloride of mercury added, and the bilge again pumped out. This action will in future be taken whenever deemed desirable by the Medical Officer of Health.

Final Conference with the Dover Urban Riparian Sanitary Authority was held on April 26th, 1893, when formal recommendations were made with regard to the following matters :—

1. The necessity for the regular and thorough inspection of all vessels entering the district, and for a consequent increase in the inspectorial staff.
2. The provision of additional hospital accommodation to enable the Sanitary Authority to deal properly with cases of seaborne cholera, and the provision of means for the safe and comfortable conveyance by water of persons suffering from infectious disease.
3. The provision of suitable means for the conveyance of their inspecting officers by water.
4. The adoption of regulations under Section 125 of the Public Health Act, 1875.
5. The steps to be taken to secure the medical inspection of all vessels entering the district.

ACTION TAKEN BY THE URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

Ships arriving from suspected ports visited, and regular inspection made of those in the harbour : arrangements made with representatives of the Belgian Government and the London Chatham and Dover Railway for taking addresses of passengers during the voyage, in the event of doubtful cases of cholera occurring during the passage from Calais or Ostend : an agreement made with a boatowner to man and place a boat at the service of the officers of the Sanitary Authority, whenever required. [Annual Report of the Medical Officer of Health for 1893.]

During 1894, with a view to averting the risks of the introduction of cholera into England, greater attention was paid to shipping, touch being kept up with the Customs and Harbour Officials, and a regular inspection of ships entering the harbour made. [Annual Report of the Medical Officer of Health for 1894.]

FOLKESTONE URBAN RIPARIAN SANITARY DISTRICT.

[Folkestone Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* March 23rd, 1893.

1. *Sanitary Authority.*—The Mayor, Aldermen, and Burgesses of the Borough of Folkestone, acting by the Council.

2. *Limits of Jurisdiction.*—Limit to the westward: opposite the Military Road leading to Shorncliffe Camp, a little to the west of Sandgate Castle.

Limit to the Eastward: about 200 yards to the east of the Valiant Sailor public-house.

3. *Parishes of Sanitary District which are Riparian.*—The Parish of Folkestone.

4. *General Character and Efficiency of Administration.*—Moderate. The Sanitary Authority in some matters, *e.g.*, hospital provision, has exhibited and is exhibiting sense of the need for discharging its duties properly, while in other matters, *e.g.*, provision of sufficient inspecting staff, it does not display a proper appreciation of how to fulfil its functions adequately.

5. *Ports from whence Ships Arrive.*—(Ports or places (British and foreign) with which Riparian District has more trade, or is in more frequent communication are printed in *italics*):—

BRITISH.—Northern coal ports, viz., *River Tyne, Sunderland, Hull* and *Goole;* occasionally London, Port Madoc.

FOREIGN.—*Boulogne*, the Baltic, Guernsey.

6. *Character of Trade*:—

IMPORTS.—French goods: Woollen yarns and textiles, clocks, pipes, dye stuffs, glue, essences and perfumery, wines, raw waste and manufactured silk, eggs, fruit, vegetables, poultry, furs, leather. Swiss goods: Watches, musical boxes, cotton embroideries, woodwork. Italian goods: Silk (raw waste and manufactured), eggs, butter, poultry, oils.

EXPORTS.—Raw wool, woollen and worsted textiles, agricultural implements.

Rags, only exceptionally; sometimes also second-hand clothing for sale.

There is a large passenger traffic.

No Immigrants or Transmigrants.

7. *Amount of Shipping Inwards during three years*, 1890–91–92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign—Steamers	878	208,767	930	213,389	1,050	226,633
Foreign—Sailing	18	4,037	12	1,935	18	2,954
Foreign—Fishing	No record: but are very few: only such as are driven in by stress of weather.					
Total Foreign	896	212,804	942	215,324	1,068	229,587
Coastwise—Steamers	160	28,278	159	29,086	181	30,585
Coastwise—Sailing						
Coastwise—Fishing	No record: practically confined to town fleet, going to and returning from fishing grounds within 24 hours.					
Total Coastwise	160	28,278	159	29,086	181	30,585

The fishing grounds referred to under "vessels fishing coastwise" are the Varne Ridge and Dungeness West Bay.

8. *Inland Water Communication.*—None.

9. *Railways Conveying Goods from Riparian District.*—South Eastern Railway.

10. *Medical Officer of Health:* Marcus George Yunge Bateman.

Qualifications.—M.R.C.S., L.S.A., D.P.H. Salary, 150*l.* per annum, with repayment.

Character and efficiency of Port work done by Medical Officer of Health.—The Medical Officer of Health is a capable and active officer, who devotes considerable time and attention to his duties.

11. *Inspector of Nuisances:* John Pearson.

Qualifications.—Cert. San. Inst. Salary, 150*l.* per annum, with repayment.

Mr. Pearson also acts as Building Inspector to the Folkestone Urban Sanitary Authority, receiving in this capacity a salary of 50*l.* per annum.

Character and efficiency of Port work done by Inspector of Nuisances.—The Port work done by the Inspector of Nuisances, although small in amount, is good in character. He is an able officer, whose other duties, however, prevent his giving that amount of attention to Port work which the latter should receive.

12. *Nuisances.*—Habitual efficient dealing with as regards shipping. From the following Table it will be observed that in 1892 less than 5 per cent. of vessels coming foreign and less than 40 per cent. of vessels coming coastwise were inspected, and it is to be noted that no inspection of fishing vessels had been made. The reason of this unsatisfactory amount of inspection is given under the last section.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.	Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign - Steamers	—	—	—
	Foreign - Sailing	—	—	—
	Foreign - Fishing	—	—	—
	Total Foreign	—	—	—
	Coastwise - Steamers	—	—	—
	Coastwise - Sailing	—	—	—
	Coastwise - Fishing	—	—	—
	Total Coastwise	—	—	—
				No record kept.
1891	Foreign - Steamers	—	—	—
	Foreign - Sailing	—	—	—
	Foreign - Fishing	—	—	—
	Total Foreign	—	—	—
	Coastwise - Steamers	—	—	—
	Coastwise - Sailing	—	—	—
	Coastwise - Fishing	—	—	—
	Total Coastwise	—	—	—
				No record kept.

	Class of Vessels.	Number inspected.	Number reported to be Defective.	Number of Orders issued.	
1892	Foreign - Steamers - -	50	—	—	These figures represent the amount of work done during and after the cholera alarm of the autumn of 1892. Prior to that no record was kept.
	Foreign - Sailing - -	1	—	—	
	Foreign - Fishing - -	—	—	—	
	Total Foreign - -	51	—	—	
	Coastwise Steamers - -	7	1	1	
	Coastwise Sailing - -	64	3	3	
	Coastwise Fishing - -	—	—	—	
	Total Coastwise -	71	4	4	

13. *Isolation Hospital.*—The Folkestone Urban Sanitary Authority has two hospitals for Infectious Diseases. One of these, known as the "Sanatorium," is a good brick building containing seven wards and has a total accommodation of 16 beds at 2,000 cubic feet air space per bed. It is situated in an enclosed piece of ground about two acres in extent, and is between half and three-quarters of a mile distant from the harbour. Access is had to it by a good carriage road. It drains into the town sewers. The other hospital, known as the "Small-pox Hospital" (four beds,) is about 1¼ miles distant from the harbour, and is situated on the side of a hill some distance out of the town. Access is not easy, as part of the road leading to it is both steep and rough.

The Urban Sanitary Authority, however, did not propose to utilise either of these buildings for cholera purposes, but proposed to erect temporary structures for treatment of cholera patients on another piece of ground.

14. *Disinfecting Apparatus.*—This is a Fraser's hot air chamber, which has recently been converted into a low pressure steam chamber by the addition of a water trough placed in its floor. The Medical Officer of Health was, at the date of inspection, experimenting on its efficiency and rapidity of action. Its size is 7·6 × 5·9 × 5 feet. It is situated in the grounds of the "Sanatorium."

15. *Mortuary.*—There is a public mortuary containing six berths at the Cemetery, which is rather more than a mile from the harbour. There is also a mortuary at the Sanatorium; and a small outbuilding at the Small-pox Hospital which is intended to serve as a mortuary.

16. *Regulations under Section* 125, *Public Health Act*, 1875.—None made.

17. *Infectious Disease* (*Notification*) *Act*, 1889. — Adopted by the Urban Sanitary Authority, November 6th, 1889. Came into force 18th December, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—"In the Harbour." As matter of practice the Boulogne boats are boarded in the harbour or at the pier outside the harbour, according to the state of the tide; other vessels are boarded within the harbour.

In the riparian waters of Folkestone Urban Sanitary District the principal place of debarkation is Folkestone Harbour; but in the summer season some half-dozen excursion (coastwise) steamers to and from Hastings and Ramsgate touch at the Victoria pier, a few hundred yards west of the Harbour. Outside the riparian waters of Folkestone Urban Sanitary District, but within the Folkestone Customs port, the following are places of debarkation:—Dungeness (mostly for pilots); Rye Harbour and Rye; St. Leonard's and Hastings.

At the Boarding Station at Folkestone Harbour there are always, nigh and day, Customs Officers in attendance, and these board all vessels, whether coming from foreign or coastwise. The excursion steamers that touch at Victoria Pier are superintended by the Coastguard while disembarkation is going on. There is a Customs officer at Rye; at the other places of debarkation above-mentioned there are no Customs Officers but the Coastguard undertake boarding duties. Procedure is the same by night as by day.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—The Customs (or the Coastguard) would detain vessels with sickness on board.

Pilots.—There are no licensed Pilots at Folkestone other than captains of the Boulogne steamer service who possess pilotage certificates. There is no Pilotage Board nor pilot-station at Folkestone. There are, it is stated, one or two unlicensed Pilots at Folkestone.

c. Arrangements for Communication between officials detaining vessels and Medical Officer of Health.—By telephone or by special messenger. The Medical Officer of Health resides in Folkestone.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—There is no launch or boat belonging to the Urban Sanitary Authority. Hitherto the Medical Officer of Health has boarded vessels from the quays. If necessary he would hire a boat to convey him to the vessel to be visited.

e. Mooring Station.—"One mile S. by W. of the Harbour Pier Head." This situation is within the Customs Port and the waters of Urban Sanitary Authority and has been approved by Customs. Anchorage at this station would be unsafe in certain states of weather, notably in S.W. gales, and the Sanitary Authority proposes to instruct the captain of any vessel sent to this mooring station that in case of onset of such weather as might put his ship in danger, he may run for shelter to Folkestone Harbour or to some other place, provided he signal to authority on shore his intention and his proposed destination. The mooring station appears to be the best that is available.

f. Inspection of Vessels ("infected" or from "infected port").—In 1892 the Medical Officer of Health inspected several vessels from "infected ports." In future he will inspect all vessels regarded as "infected" or that arrive from a port regarded as infected.

g. Examination of Persons on Vessels ("infected" or from "infected port"). —Medical examination will not be made of persons on Boulogne steamers unless the Medical Officer of Health has reason from a report made to him (by captain, steward, or stewardess or other person) that such person is suffering from suspicious illness. Vessels from "infected ports" will be met, however, and passengers observed as they come ashore.

h. Address Book.—None kept.

i. Special Isolation Provision for Cholera.—The Sanitary Authority was at the date of inspection in treaty regarding a piece of land, somewhat under one acre in extent, situated within ¾ mile of the Harbour and near the present Sanatorium. This, if rented or acquired, it proposes to use as a site whereon to erect temporary buildings to serve as a Cholera Hospital. The proposed site is of good shape and contour and is easy of access by a good carriage road. The nearest human habitation is some 200 yards off; the nearest public road is about the same distance; the nearest water-supply is a South Eastern Railway reservoir some 100 yards distant. Nursing Institutes at Canterbury and Dover have been communicated with by the Medical Officer of Health and have agreed to supply nurses when telegraphed for.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—There is no water ambulance provision. Land ambulance provision for cholera purposes (in addition to Urban Sanitary Authority's ambulance for other

infectious disease) consists of a four-wheeled cart covered by a waterproof tilt. It is a horse ambulance.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods.*—

(*a.*) The apparatus described under section 14: boiling: steeping in disinfectant solutions.

(*b.*) Fumigation by sulphur: cleansing: washing infected compartments with disinfectant solution.

(*c.*) Such of the measures mentioned under (*a*) and (*b*) as may be applicable.

n. Arrangements as to the Disposal of the Dead.—There is a public cemetery in the Borough where cholera dead would be buried. The Urban Sanitary Authority stated that no difficulty would arise in this respect.

o. Action as to Water Supply of Vessels from Infected Ports.—Water had not prior to the Inspector's visit been supplied under the Board's Order. When necessary, however, the Urban Sanitary Authority stated that it would enforce the Order and would supply water from the public mains at its own expense. There are no water boats; water would be supplied to the vessel as she lay alongside a quay.

p. Action as to Bilges of Vessels from Infected Ports.—The Board's Order on this point had never been enforced, but would, it was stated, be put in force when deemed necessary. After pumping out the bilge, solution of perchloride of mercury would be added and the bilge be again pumped out.

Final Conference with the Folkestone Urban Riparian Sanitary Authority was held on April 17th, 1893, when formal recommendations with regard to the following matters were made:—

1. The necessity for the regular and thorough inspection of all vessels entering the district and consequently for an increase in the inspectorial staff.
2. The necessity for making immediate addition to the hospital accommodation of the district.
3. The provision of means for the conveyance by water of the inspecting officers and of the sick.
4. The adoption of regulations under section 125 of the Public Health Act, 1875.
5. The steps to be taken for securing the medical inspection of all vessels entering the district.

Action taken by the Urban Riparian Sanitary Authority since Inspection.

Medical inspection made of all passengers arriving from the Continent during 1893 by South-Eastern Railway day boats until June 12th: after June 12th inspection made of night boats also until November 1st: during the latter period a medical man appointed to aid the Medical Officer of Health in port duties: all vessels from ports regarded as "infected" also medically inspected. [Annual Report of the Medical Officer of Health for 1893.]

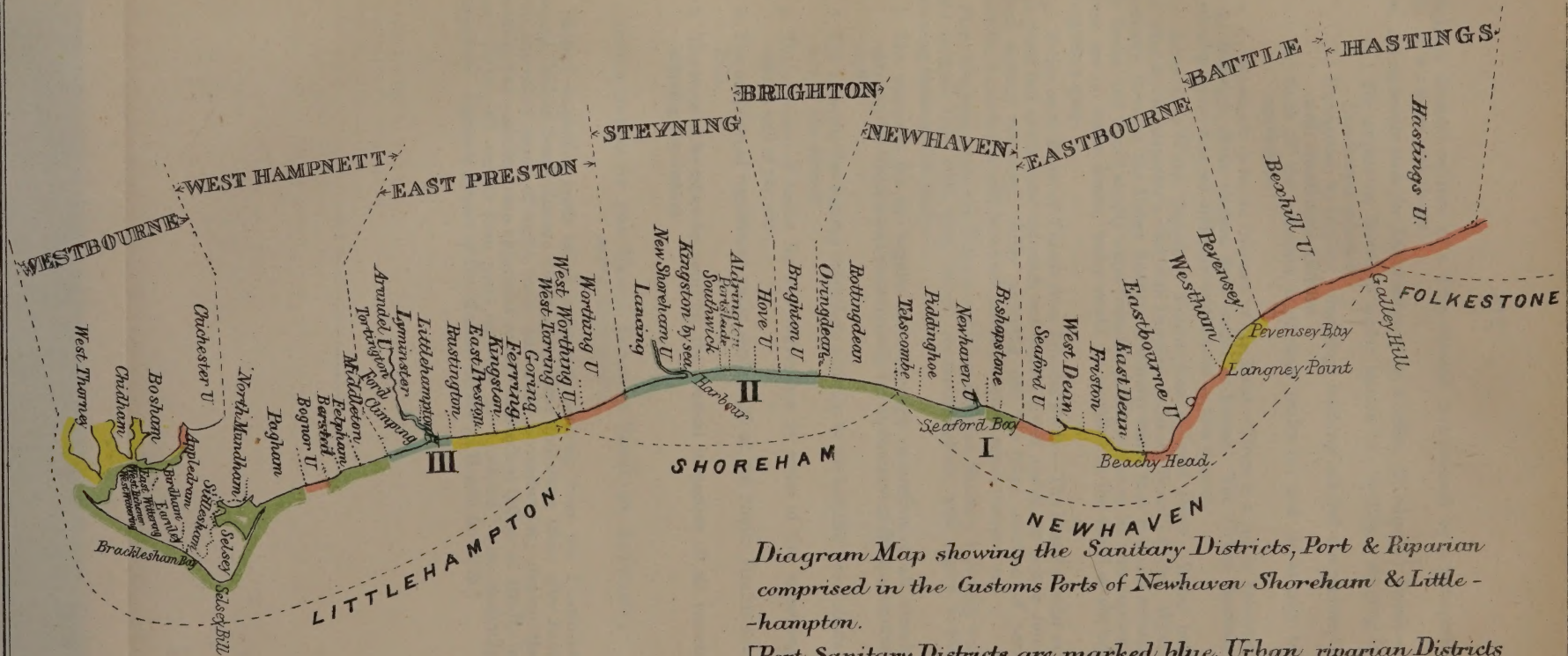

Diagram Map showing the Sanitary Districts, Port & Riparian comprised in the Customs Ports of Newhaven Shoreham & Littlehampton.

[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural districts each Parish that is riparian is separately designated]

I Newhaven II New Shoreham & III Littlehampton. Port Sanitary Districts.

SECTION VIII.

Customs Ports of Newhaven, Shoreham, and Littlehampton.

Illustrated in Map VIII.

LIMITS OF CUSTOMS PORTS.

(28.) *Newhaven.*

The limits of the said Port of Newhaven shall commence at the point of the headland called Galley Hill, on the coast of Sussex, being the western limit of the Port of Folkestone, and shall extend along the coast of the County of Sussex to the north-eastern part of the Parish of Rottingdean, in the said County of Sussex, being the eastern limit of the Port of Shoreham, and shall extend seaward to a distance of three miles from low-water mark, along the coast within the said limits, and shall*

Date of Treasury Warrant 9th day of November 1881.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Newhaven, the Urban Riparian Sanitary Districts of Bexhill, Eastbourne, and Seaford, and certain Riparian Parishes of the Rural Sanitary Districts of Eastbourne, and Newhaven. The shipping trade is practically confined to the Newhaven Port Sanitary District, as to which see report at page 315.

(29.) *Shoreham.*

The limits of the said Port shall commence at the north-eastern part of the Parish of Rottingdean, in the County of Sussex, being the western boundary of the Port of Newhaven, and shall extend along the coast of the said County of Sussex, in a westerly direction, to the most eastern part of the Parish of Heene, in the County aforesaid, being the eastern boundary of the Port of Littlehampton, and shall*

Date of Treasury Warrant, 27th day of July 1881.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of New Shoreham, the Urban Riparian Sanitary Districts of Worthing and West Worthing, and certain Riparian Parishes of the Rural Sanitary Districts of Newhaven and East Preston. The shipping trade is practically confined to the New Shoreham Port Sanitary District, as to which see report, page 323.

(30.) *Littlehampton.*

The limits of the said Port commence at the most eastern point of the Parish of Heene, in the County of Sussex, and thence along the coast of the said County and up the River Arun to the north side of Arundel Bridge, from thence southwards, including the said River to the mouth thereof, and so westwardly along the coast to Bosham Creek, thence up and including the said Creek to the most western part of the Parish of Bosham in the said County, being the eastern limit of the Port of Portsmouth, and shall*

Date of Treasury Warrant, 20th day of February 1869.

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* See footnote, page 78, *ante*.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Littlehampton, the Urban Riparian Sanitary Districts of Bognor and Chichester, and certain Riparian Parishes of the Rural Sanitary Districts of East Preston, West Hampnett, and Westbourne. The shipping trade is chiefly confined to the Littlehampton Port Sanitary District, as to which see report, page 331.

Newhaven Port Sanitary District.

[Newhaven Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* February 22nd and 23rd, 1893.

Date of Order *permanently* constituting Port Sanitary District: December 3rd, 1888.

1. *Constitution of Port Sanitary Authority:—*

   The Port Sanitary Authority is the Newhaven Local Board. It exercises port functions in waters abutting upon the Urban Sanitary District of Newhaven only.

2. *Limits of Jurisdiction:—*

   So much of the Port of Newhaven "as abuts upon the District of the said Newhaven Local Board; together with the waters,"* &c. These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

   Newhaven Urban Sanitary District.

4. *Apportionment of Expenses:—*

   Wholly borne by the Newhaven Urban Sanitary Authority.

5. *General Character and Efficiency of Administration:—*

   Very unsatisfactory. Newhaven is a port of considerable importance, and with large passenger traffic. Regular and careful supervision of this traffic by the Port Sanitary Authority is wanting, and can indeed hardly be looked for so long as it pays its inspecting officers the ridiculously small salaries they at present receive. Further, the Port Sanitary Authority is absolutely devoid of means for dealing with imported cholera cases; and those at the disposal of the Urban Sanitary Authority are so unsatisfactory as to leave the Urban Authority in this respect little better off than the Port Authority.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

   Foreign.—*Dieppe, Honfleur, Caen, St. Nazaire, Baltic Ports, Channel Islands,* Cherbourg.

   Coastwise.—Newcastle, *Hartlepool, Sunderland, Cardiff,* Middlesbrough, Llanelly, Newport, Swansea, Goole.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, trans-migrants, &c.):—

   Imports.—Provisions such as eggs, butter, cheese, meat, poultry, fish, &c., manufactured goods, such as china, clocks, glass, iron, brass, copper, steel, silks, woollens, cottons, linen.

   Rags are imported.

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* See footnote, page 89, *ante.*

Exports.—Manufactured goods, woollens, cottons, linens, silks, hats, machinery, private effects, &c.

Passengers principally from Dieppe; to less extent from St. Nazaire and Honfleur.

Immigrants and Trans-migrants also arrive at this port.

8. *Amount of Shipping Inwards during Three Years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers - -	1,205	287,339	1,193	286,055	1,281	307,444
Foreign { Sailing - -	83		99		105	
Foreign { Fishing - -	(A few fishing boats come from foreign: these are included under foreign sailing vessels.)					
Total Foreign -	1,288	287,339	1,292	286,055	1,386	307,444
Coast-wise. { Steamers - -	301	61,862	274	66,976	317	69,618
Coast-wise. { Sailing - -						
Coast-wise. { Fishing - -	799	15,980*	741	14,820*	788	15,760
Total Coastwise -	1,100	77,842	1,015	81,796	1,105	85,378

* Estimated—Fishing boats average about 20 tons.

9. *Inland Water Communication :—*

By the River Ouse. This traffic is entirely by river-barges, which carry such articles as coal, corn, oilcake up to Lewes. Occasionally they go as far up the river as Barcombe. In very high tides they proceed also to Glynde.

The Port Sanitary Authority exercises no supervision over these barges.

10. *Lines of Railway conveying Goods from Port :—*

London, Brighton, and South Coast Railway.

11. *Medical Officer of Health :* Arthur George Mossop.

Qualifications :—L.R.C.P. and S.I. Salary, 10*l.* 10*s.* per annum, with repayment. Mr. Mossop holds no other sanitary appointment.

Character and efficiency of work done by Medical Officer of Health :—Under ordinary circumstances the Medical Officer of Health does not devote much time to his duties. This is not surprising in view of the facts that he is in busy practice and that he has but a meagre salary as Port Medical Officer of Health. During the autumn of 1892, however, when cholera was very prevalent on the Continent, this officer is stated to have visited and inspected, immediately on arrival, every vessel that entered the harbour from foreign.

12. *Inspector of Nuisances :* Walter Quaife.

No sanitary certificate. Salary, 8*l.* per annum; with repayment. Mr. Quaife also acts as Inspector of Nuisances for the Seaford and the Newhaven Urban Sanitary Districts.

Character and efficiency of work done by Inspector of Nuisances :

The Inspector of Nuisances keeps no record of port inspection work other than that contained in a pocket-

book carried by him for note-taking purposes when inspecting a vessel. He inspects less than two vessels a week; and of this inspection the record kept (in pocket-book) is not satisfactory. His salary is very small, and is quite out of keeping with the importance of the port.

13. *Nuisances:—*

From the list given in the following table of vessels inspected during 1890–91–92 it will be observed that only about 2 per cent. of vessels coming from foreign have been inspected by the Port Sanitary Authority; while, in the case of vessels coming coastwise, inspection has been made in about 5 or 6 per cent.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	10	—	—
		Sailing	19	10	10
		Fishing	—	—	—
	Total Foreign		29	10	10
	Coastwise.	Steamers	—	—	—
		Sailing	62	4	4
		Fishing	—	—	—
	Total Coastwise		62	4	4
1891	Foreign	Steamers	17	—	—
		Sailing	12	—	—
		Fishing	—	—	—
	Total Foreign		29	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	51	9	4
		Fishing	—	—	—
	Total Coastwise		51	9	4
1892	Foreign	Steamers	11	—	—
		Sailing	14	—	—
		Fishing	—	—	—
	Total Foreign		25	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	70	19	7
		Fishing	—	—	—
	Total Coastwise		70	19	7

14. *Isolation Hospital:—*

The Port Sanitary Authority has no hospital for infectious diseases; nor does it possess any site on which isolation provision for cholera might be made. The Port Sanitary Authority has no ambulance or other means of conveying patients.

The Newhaven Urban Sanitary Authority, which is practically the same body as the Port Sanitary Authority, possesses a hospital for infectious diseases. This is a brick building, formerly a flour mill, which is rented by the Urban Sanitary Authority at a cost of 14*l.* a year. It is situate on the top of a hill, and is about a mile and a quarter distant from the principal landing stage of the harbour. Access is had to it by a road which is in part very steep and in extremely bad repair. Patients conveyed from any part of the harbour to this hospital would have to be taken through the streets of Newhaven. The Urban Sanitary Authority has rented no land along with the building, past one gable end of which runs a private road leading to the Downs. The Newhaven Rural Sanitary Authority's Cottage Hospital for infectious diseases is in close proximity to the Urban Authority's hospital. The Urban Authority's hospital consists of two rooms used as wards; another room used as kitchen, wash-house, and nurses' sleeping-room; and a fourth room used as pantry and store-room. These rooms are separated one from the other by wooden partitions, of which only one runs to the roof. There is no ceiling. By communication over the partitions or through doorways there is a common atmosphere in the whole interior of the building. All interior walls and partitions are whitewashed.

The male ward is 20 feet × 15 feet, and is 7½ feet in height from the floor to the junction of the roof and wall, giving a total air-space of 2,250 cubic feet. The floor in this room, as in the rest of the building, is of wooden planks. It is lighted by three windows, swinging open at top. It is warmed by a small oil stove. A fixed receptacle with access for cleansing purposes from outside the building, and containing a movable pail, is fitted up inside the ward to serve as a closet. There are four beds in this ward.

The female ward is 20 feet × 8 feet × 7½ feet, giving a total air-space of 1,200 cubic feet. It is lighted by one window, opening like those already described; warming is effected by means of a small oil stove. The pail closet (similar to that in the male ward), connected with this ward, is separated from the ward by a small corridor.

The kitchen is 21 feet × 11 feet × 7½ feet; is lighted by one window; and contains a range for cooking purposes and a copper pot for washing purposes. There is no sink in the building; slops are thrown on the grass outside.

The pantry is 11 feet × 6 feet × 7½ feet; it has no window, and is separated from the kitchen by a partition 7 feet high.

Water is brought to the hospital in barrels from a point some 500 yards distant, and is conveyed up the steep hill by the badly repaired road already referred to. Ashes and other

refuse are thrown on a patch of grass in front of the building. Coals are stored in a locker in the kitchen.

There is no mortuary attached to this hospital, nor any vacant place in the building where a dead body could properly be placed.

The ambulance belonging to the Urban Sanitary Authority is a four-wheeled cart covered over by a water-proof tilt. It has no driver's seat. The Urban Sanitary Authority also possesses a canvas stretcher, some 8 feet in length.

15. *Disinfecting Apparatus* :—

None provided.

16. *Mortuary* :—

The Port Sanitary Authority has no mortuary.

There is a mortuary in the Urban Sanitary District situate at the public cemetery, two miles inland from the harbour entrance. It is a brick building with concrete floor, and is well lighted and ventilated. The internal dimensions of the building are 18 feet in length, 12 feet in breadth, and 10 feet in height to the junction of wall and roof.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Adopted by the Port Sanitary Authority February 26th, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The Customs Boarding Station is situate "in the stream, between "the piers and the Customs watch-house" Board of Trade Order No. $\frac{43}{1876}$.

There is only one place of debarkation within the Newhaven Port Sanitary District, namely :—Newhaven Harbour. The Boarding Station is the same for vessels coming coastwise as for vessels coming from foreign. Coasters, however, are only occasionally boarded by Customs; this is done "whenever there "is spare time and opportunity." Procedure as regards boarding is the same by night as by day, there being always four Customs Officers on duty.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Vessels would be detained, if there were sickness on board, by Customs Officers. Provision for detention is the same by night as by day.

The Harbour Master, who is a Sub-Commissioner of the Pilotage Board, has forbidden unlicensed persons to go on board and act as pilots to vessels about to enter the Port. This order, he believes, is obeyed. But it is said that occasionally a boatman, not licensed to act as a pilot, may from his boat direct a vessel how to steer if such vessel be not one for which pilotage is compulsory.

All licensed Pilots have received instructions from the Harbour Master to ask the captain of the vessel they are about to pilot as to the health of all persons on board the vessel. If he should be informed that there is sickness on board he is to bring-to the vessel outside the harbour, and to send a boat ashore to inform the Customs thereof. The Customs Officers would thereupon go out in their boat and make inquiries, and would, if necessary, communicate with the Medical Officer of Health. (The Customs boat, however, is too slight to stand a heavy sea; and should there be rough weather, another boat would have to be hired.)

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

It has been arranged that Customs Officers, on detaining vessels with sickness on board, shall communicate at once with the Port Medical Officer of Health by special messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority have no boat or launch in their possession. It is usual for their officers to board from the quay. If it were found necessary to board in stream or outside the harbour a boat would be hired by them for this purpose.

e. Mooring Station :—

The mooring station is within a space bounded by four straight lines drawn as follows :—

(1) For the distance of one mile due south from the most easterly points of the limits of jurisdiction of the Newhaven Port Sanitary District, (2) from the southern extremity of the Newhaven East Pier to the southern extremity of the line herein-before described, (3) from the most easterly point of the limits of jurisdiction of the Newhaven Port Sanitary District to the most northerly point of Newhaven East Pier, and (4) from the northern to the southern extremity of the Newhaven East Pier. This mooring station is within Newhaven Customs Port and Port Sanitary District. It is the best that can be provided. It will not in certain states of weather afford safe anchorage, and in case of rough weather imperilling the safety of a vessel lying at the mooring station, the Port Sanitary Authority proposes to allow her to run for shelter to Newhaven Harbour, or elsewhere, if she signal her proposed destination.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health stated that he would, if possible, inspect all "infected" vessels, and all vessels from "infected ports." But he pointed out that the traffic from Dieppe, St. Nazaire, and Honfleur was so great that without assistance he did not feel that he could discharge his duties properly, should these ports, or any of them, become "infected," and should vessels therefrom require regular inspection in consequence.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Medical Officer of Health stated that he would examine all persons on vessels whether "infected" or from "infected port," subject to the proviso noted under *f*.

h. Address Book :—

None kept.

i. Special Isolation Provision for Cholera :—

None made.

[*See* notes as to Urban Sanitary Hospital under s. 14.]

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None made.

l. Means Provided for Transfer of Infected Persons from Ship to Hospital :—

There is no water ambulance provision. For description of Urban Sanitary Authority's land ambulance, *see* s. 14.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship,*) (*c*) *Goods :—*

(*a.*) Clothes :—Sulphur fumigation ; and boiling when possible. The Medical Officer of Health did not propose to trust to sulphur fumigation unaided, and would have recourse to destruction when boiling of articles is inapplicable.

(*b.*) Ship :—Sulphur fumigation ; washing and cleansing, and whitewashing ; use of perchloride of mercury solution.

(*c.*) Goods :—Destruction if the means already enumerated under (*a*) and (*b*) be not applicable or effective.

n. Arrangements as to the Disposal of the Dead :—

Dead bodies when on board ship are to be buried at sea.

Dead bodies, when in charge of Port Sanitary Authority or on shore, are to be interred at the public cemetery situate two miles inland.

o. Action as to Water Supply of Vessels from Infected Ports :—

Action will be taken under Board's order regarding water supply when necessary in the opinion of the Port Medical Officer of Health.

p. Action as to Bilges of Vessels from Infected Ports :—

Action will be taken under the Board's order regarding bilges when necessary in the opinion of the Port Medical Officer of Health.

Final Conference with the Newhaven Port Sanitary Authority was held on March 16th 1893, when formal recommendation was made with regard to the following matters :—

1. The appointment of a Port Inspector of Nuisances to devote his whole time to the duties of his office.
2. The provision of proper and sufficient hospital accommodation.
3. The provision of a boat or launch for the conveyance by water of (*a*) their inspecting officers and of (*b*) persons suffering from infectious disease.
4. The provision of an efficient disinfecting apparatus.
5. The provision of a proper mortuary in a suitable situation.
6. The necessity of being prepared beforehand, in the event of any marked extension of cholera in Europe, with arrangements for securing the medical inspection of all vessels entering the port.

ACTION TAKEN BY PORT SANITARY AUTHORITY SINCE INSPECTION.

During the prevalence of cholera on the Continent in 1893 vessels that entered the port were inspected daily by the Port Sanitary Authority's officers; in the summer of 1893 a hospital capable of containing 20 adults was provided by the Port Sanitary Authority. [Annual Report of the Port Medical Officer of Health for 1893.]

New Shoreham Port Sanitary District.

[New Shoreham Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* March 14th and 15th, 1893.

Date of Order *permanently* constituting Port Sanitary District: October 24th, 1892.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is a Joint Board termed "The New "Shoreham Port Sanitary Authority" and consists of thirteen members comprising representatives of the Riparian Authorities of the Brighton, New Shoreham, and Hove Urban, and of the Steyning Rural Sanitary Districts, as follows :—

Brighton Urban Sanitary Authority		Three	members
Steyning Rural	„ „	Six	„
New Shoreham Urban	„	Two	„
Hove Urban	„ „	Two	„

The Joint Board exercises port functions in waters abutting upon the Sanitary Districts named above.

2. *Limits of Jurisdiction :—*

So much of the Port of New Shoreham "as lies seaward of the "coast between the eastern boundary of the County Borough of "Brighton and the western boundary of the Parish of Lancing, "in the County of West Sussex, together with the waters,*" &c.

The limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Brighton Urban Sanitary District. Parish :—Brighton.
Hove Urban Sanitary District. Parish :—Hove.
New Shoreham Urban Sanitary District. Parish :—New Shoreham.
Steyning Rural Sanitary District. Parishes :—Aldrington, Portslade, Southwick, Kingston-by-Sea, and Lancing.

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* See footnote, page 89, *ante*.

4. *Apportionment of Expenses:—*

The constituent Riparian Authorities contribute towards the expenses incurred by the Port Sanitary Authority in the following proportions:—

Brighton Urban Sanitary Authority -	Three thirteenths.
Hove Urban Sanitary Authority -	Two thirteenths.
New Shoreham Urban Sanitary Authority and Steyning Rural Sanitary Authority together -	Eight thirteenths.

The joint contribution of the two last-named authorities to be apportioned between them according to the rateable values of their respective districts.

5. *General Character and Efficiency of Administration:—*

This district has been very laxly administered in the past. It is to be hoped, however, that the inclusion, by the Board's Order of October 24th, 1892, of Brighton and Hove in the Port Sanitary District may lead to more energetic action on the part of the Sanitary Authority.

6. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

FOREIGN.—*Guernsey*, *Havre*, Rouen, Bordeaux, *Amsterdam*, Rotterdam, Ghent, *St. Malo*, *Cherbourg*, *Barfleur*, *Cap. Levi*, *St. Brieuc*, *Christiania*, Christiansand, *Gefle*, Libau, *Fredrikstadt*, Cronstadt, Riga, Drobak, Gothenburg, *Norkoping*, Hudiksval, Pitea, Stockholm, *Wyburg*, Antwerp, Trouville, Dunkirk.

COASTWISE.—*Newcastle*, London, *Hartlepool*, *Sunderland*, *Cardiff*, *Swansea*, Hull, *Goole*.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Imports.—Granite, wood, slates, sugar, oats, wheat, moss litter, potatoes, ice, barley, glass, oysters, empty casks.

Exports.—Chemical products, coke.

No rags, immigrants, or transmigrants.

Passengers on coasting steamers from Bournemouth and Isle of Wight to Brighton and Worthing.

8. *Amount of Shipping Inwards during three years,* 1890-91-92:—

	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign - Steamers -	17	4,076	22	5,794	32	8,521
Foreign - Sailing -	285	22,336	285	21,964	243	20,159
Foreign - Fishing -						
Total Foreign -	302	26,412	307	27,758	285	28,680
Coastwise - Steamers -	137	47,077	142	49,274	147	48,270
Coastwise - Sailing -	151	17,511	186	19,128	159	18,470
Coastwise - Fishing -	—	—	—	—	—	—
Total Coastwise -	288	64,588	328	68,402	306	66,740

9. *Inland Water Communication :—*

The River Adur. The traffic up the Adur is small, and is by means of river barges only, mostly carrying sand and coal, trading to the small villages situate on the river. No supervision has been exercised over this traffic by the Port Sanitary Authority. The Canal Boats Acts have not been enforced.

10. *Lines of Railway conveying Goods from Port :—*

The London, Brighton, and South Coast Railway.

11. *Medical Officer of Health :* Charles Marshall Kempe.

Qualifications :—M.R.C.S., L.S.A. Salary, 20*l.* per annum, with repayment.

Mr. Kempe also holds the appointment of Medical Officer of Health for the New Shoreham Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—This officer has done more work for the Port Sanitary Authority than forms an equivalent for the meagre salary he receives. He is heavily handicapped in the performance of his port duties, however, by the defective character of the means at his disposal for dealing with infectious diseases and for discharging his other duties.

12. *Inspector of Nuisances :* Mark Henry Terrill.

No sanitary certificate. Salary, 10*l.* per annum, with repayment.

Mr. Terrill is also a Preventive Officer of Her Majesty's Customs.

Character and efficiency of work done by Inspector of Nuisances :—

This officer was appointed on February 7th, 1893. The record of inspection, therefore, given under the next section embodies the work done by his predecessor in office. Mr. Terrill has a good knowledge of the nature of his duties as Port Inspector of Nuisances, and of the manner in which sanitary inspection of vessels should be conducted.

13. *Nuisances:—*

In the following Table a record will be found of the number of vessels inspected during 1890-91-92. Comparison of these figures with figures given in section 8 (showing amount of traffic to the port) indicates that a considerable amount of inspection was performed. Occasionally, it will be observed, the number of inspections exceeds the number of vessels registered as having entered the port; this is attributed to the inclusion in the records of second visits to the ship inspected. No orders other than verbal were issued concerning remedy of defects observed, and there is no record of the number of vessels found to be defective. The late Inspector of Nuisances was also Harbour Master, and in that capacity visited all vessels entering the port.

Inspection of Shipping in 1890–91–92.

Table supplied by Port Inspector of Nuisances.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	14	—	—
		Sailing	117	—	—
		Fishing	2	—	—
		Total Foreign	133	—	—
	Coastwise.	Steamers	120	—	—
		Sailing	168	—	—
		Fishing	32*	—	—
		Total Coastwise	320	—	—
1891	Foreign	Steamers	155	—	—
		Sailing		—	—
		Fishing	—	—	—
		Total Foreign	155	—	—
	Coastwise.	Steamers	255	—	—
		Sailing		—	—
		Fishing	17*	—	—
		Total Coastwise	272	—	—
1892	Foreign	Steamers	26	—	—
		Sailing	143	—	—
		Fishing	2	—	—
		Total Foreign	171	—	—
	Coastwise.	Steamers	140	—	—
		Sailing	162	—	—
		Fishing	61*	—	—
		Total Coastwise	363	—	—

* The number of fishing vessels inspected is an approximate estimate only.

14. *Isolation Hospital:*—

The Port Sanitary Authority possesses an "isolation hospital," situate on a stretch of shingle that lies between New Shoreham and the sea. This stretch of shingle is separated from New Shoreham by the River Adur. The site is in the Steyning Rural Sanitary District, and was, it is stated, granted to the Port Sanitary Authority for erection of a hospital thereon on condition that the hospital should be used only for the purpose of isolating cholera. The site is about 200 yards from the south bank of the Adur; about three quarters of a mile from the sea; and about half a mile from the nearest docks. The site is not enclosed. There is no road to the "hospital," to which access is had only by traversing the shingle. The

"hospital" was erected in 1886, and consists of two disused railway carriages, united, and internally re-arranged so as to provide the following accommodation :—

A. Ward : 19 feet long by 7 feet wide, and 6 feet high.

B. Ward : 10 feet long by 6 feet 6 inches wide, and 6 feet high. Nurse's room : 8 feet long by 6 feet 6 inches wide, and 6 feet high. A passage, 5 feet wide, separates Ward A. from Ward B. and nurse's room. Lighting is secured by six windows and two skylights ; there are no special arrangements for warming. There are no cooking, laundry, or mortuary arrangements in connection with this "hospital." Water would have to be conveyed from New Shoreham in casks. There are no furnishings in the structure, but it is stated that bedding is kept in readiness at a store situate in New Shoreham. Nursing arrangements had not been made at the time of inspection.

The Port Sanitary Authority possesses no ambulance provision for conveyance of the sick, either by land or by water.

15. *Disinfecting Apparatus :—*

None.

16. *Mortuary :—*

None.

17. *Regulations under Section* 125 *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The boarding station is defined as "near the entrance of the "harbour on the Western Branch, opposite the Customs "Watchhouse and Kingston Wharf," (Board of Trade Order $\frac{43}{1876}$). Vessels are not actually boarded by the Customs Officers at the above station for the reason that a ship, if brought-to there, would be liable to go ashore or aground. Vessels, therefore, going to the eastern branch of the harbour are boarded at the lock-gates, being the entrance to the Aldrington Canal, which constitutes the eastern part of the harbour mentioned. Vessels going to the western branch of the harbour are boarded at the Quays where they bring up.

Places of debarkation in the district are :—New Shoreham, Kingston, Lancing Parish opposite Kingston Wharf, Southwick, Fishergate, Portslade, Aldrington (all these places are reached through the entrance to New Shoreham Harbour) ; Brighton (fishing boats, pleasure steamers, and a few yachts).

The Customs do not usually board coasting vessels ; nor is it usual to board any vessels at Brighton or Hove. Procedure of Customs and Coastguard is the same by night as by day.

. *Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots :—*

Officers of Customs or of Coastguard will detain vessels with suspicious sickness on board. Customs Officers are stationed at the entrance to Shoreham Harbour only; at Brighton and Hove Customs functions are discharged by the Coastguard.

There is a Pilotage Board at New Shoreham, under the Trinity House, and of this board the Chief Officer of Customs at New Shoreham is a Sub-Commissioner. This Board has jurisdiction from Brighthelmstone (Brighton) to the Owers, not including the Port of Arundel. There are stated to be no unlicensed Pilots in this district. All Pilots have been instructed that before boarding any vessels they are to ask the officer in charge the name of the port whence he has come, and to make inquiry as to health of all on board. If any sickness is reported on board the Pilot is to return to shore and inform the Customs of the fact, directing the vessel meanwhile to stand off. These instructions have been issued by the Chief Officer of Customs, in his capacity as a Sub-Commissioner of Pilotage, after consultation with the Port Medical Officer of Health.

c. *Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—*

The detaining Officer of Customs and Coastguard would communicate with the Port Medical Officer of Health by special messenger, save in cases of vessels off Brighton and Hove, when detaining officer would telegraph to Chief Officer of Customs at New Shoreham, who would thereupon send a special messenger to the Port Medical Officer of Health.

d. *Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—*

The Port Sanitary Authority has no steam launch or boat at its disposal. When the Medical Officer of Health inspects vessels lying outside the entrance to the harbour he sometimes uses the steam-tug of the Harbour Trustees by their permission. For the use of this tug the Port Sanitary Authority subsequently pays the trustees. Sometimes also the Port Sanitary Authority pays for the hire of a sailing boat used by the the Medical Officer of Health in the discharge of his duties.

e. *Mooring Station :—*

The mooring station fixed by the Port Sanitary Authority and agreed to by the Customs is situate in the River Adur, about half a mile above the entrance to the harbour. There is not, however, sufficient depth of water here to make the station suitable for the largest ships that trade to New Shoreham, and accordingly an additional mooring station has been suggested. This proposed station, which had not at the time of inspection been finally agreed upon by the Port Sanitary Authority, although it had received the approval of the Customs, is situate at sea one and a half miles south-west of the lighthouse at the entrance of the harbour. Vessels sent to this mooring station would be permitted, in case of foul weather setting in, to run for shelter to New Shoreham or elsewhere on their signalling to shore their intention and proposed destination.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Medical Officer of Health will inspect all vessels regarded as "infected" and all vessels from ports regarded as "infected."

g. Examination of Person on Vessels ("infected" or from "infected port"):—

Medical examination will be made of all persons on "infected" vessels and of all persons suffering from suspicious illness on board vessels from ports which are "infected."

h. Address Book:—

None provided.

i. Special Isolation Provision for Cholera:—

No other means than those described under section 14 *ante*.

k. Arrangements for Isolation of Persons suspected to be Suffering from Cholera:—

No special arrangements made.

l. Means provided for Transfer of infected Persons from Ship to Hospital:—

None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) Fumigation by sulphur; washing; use of liquid disinfectants.

(*b.*) Fumigation by sulphur; washing; use of liquid disinfectants.

(*c.*) None; save such of the foregoing means as may be applicable.

n. Arrangements made as to the Disposal of the Dead:—

None have been made by the Port Sanitary Authority.

[There are public cemeteries at New Shoreham, Portslade, Hove, and Brighton.]

o. Action as to Water Supply of Vessels from Infected Ports:—

The Port Sanitary Authority will, when necessary in the opinion of the Medical Officer of Health, carry out the Board's Order regarding water supply. The Authority has on several occasions done this, supplying New Shoreham water free of cost.

p. Action as to Bilges of Vessels from Infected Ports:—

The Board's Order will be put in force when the Medical Officer of Health considers this step necessary. The Order has already been enforced in several instances. The action taken is to pump out bilge, add carbolic acid solution, and again pump out bilge.

Final Conference with the New Shoreham Port Sanitary Authority was held on May 9th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for the regular and thorough inspection of vessels entering the port.

2. The provision of sufficient and suitable hospital accommodation and of proper ambulances.
3. The provision of suitable means for the conveyance of their inspecting officers by water.
4. The adoption of "The Infectious Disease (Notification) Act, 1889."
5. The provision of efficient means for disinfection of infected articles.
6. The provision of suitable mortuary accommodation.
7. The steps to be taken beforehand to ensure, in the event of any marked extension of cholera in Europe, the medical inspection of all vessels entering the port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

By Orders of the Board, dated July 26th, 1894, and July 5th, 1895, respectively, the constitution and apportionment of expenses of the Port Sanitary Authority have been altered, and are now as follows :—

Constitution :—

Brighton Urban District Council—Three members.
Steyning East Rural District Council—Two members.
Steyning West Rural District Council—Three members.
New Shoreham Urban District Council—Two members.
Hove Urban District Council—Three members.

Apportionment of Expenses :—

Brighton Urban District Council—Three-thirteenths.
Steyning East Rural District Council, Steyning West Rural District Council, and New Shoreham Urban District Council together—Seven-thirteenths.
Hove Urban District Council—Three-thirteenths.

All vessels that entered the port during 1893 inspected by officers of the Port Sanitary Authority; ambulance provided; the "hospital" repaired and painted; a scheme for erection of a suitable hospital conjointly with neighbouring Sanitary Authorities under consideration but not decided upon; the Infectious Disease (Notification) Act adopted. [Annual Report of the Port Medical Officer of Health for 1893.]

Two Inspectors of Nuisances appointed, of whom one to give his whole time to the duties of his office; the Port Medical Officer of Health to inspect all vessels entering the Port if need should arise and to receive extra remuneration for extraordinary services; a hospital tent purchased; the questions of disinfection arrangements and mortuary accommodation referred to the Port Medical Officer of Health and "undertaken" by him. [Letter from Port Sanitary Authority, dated June 4th, 1893.]

Permission to use the "hospital," described in this report, for reception of cases of other infectious diseases as well as of cases of cholera granted by the lessor of the land on which that structure is erected. [Letter from Port Sanitary Authority dated February 26th, 1894.]

Littlehampton Port Sanitary District.

[Littlehampton Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* February 20th and 21st, 1893.

Date of Order *permanently* constituting Port Sanitary District: 30th September 1892.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Littlehampton Port Sanitary Authority," and consists of seven representative members, as follows:—

Littlehampton Urban Sanitary Authority, five members.
East Preston Rural Sanitary Authority, two members.

It exercises port functions in waters abutting upon the Littlehampton Urban and upon the East Preston Rural Sanitary Districts.

2. *Limits of Jurisdiction:—*

"So much of the said Port as is comprised within the following lines; that is to say,—a line following and coincident with the seaward boundary of the said Port, and drawn from that point in the said boundary which is nearest to the seaward extremity of the common boundary of the Parishes of Climping and Middleton to that point in the said boundary which is nearest to the seaward extremity of the common boundary of the Parishes of Littlehampton and Rustington, a straight line drawn due north from the point firstly herein-before mentioned to the nearest point in the line of the London, Brighton, and South Coast Railway, a straight line drawn due north from the point secondly herein-before mentioned to the nearest point in the said railway line, and a straight line drawn between the points thirdly and fourthly herein-before mentioned, together with the waters,"* &c.

The limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Littlehampton Urban Sanitary District. Parish: — Littlehampton.

East Preston Rural Sanitary District. Parish:—Climping.

4. *Apportionment of Expenses:—*

The Littlehampton Urban Sanitary Authority pays five-sevenths of expenses.

The East Preston Rural Sanitary Authority pays two-sevenths of expenses.

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* See footnote page 89, *ante.*

5. *General Character and Efficiency of Administration :—*

The administration of this district by the Port Sanitary Authority is very lax.

6. *Ports from whence Ships arrive.* Ports or places (foreign and coastwise) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics :—*

Foreign.—*Baltic Ports :* Northern Ports of Russia : St. Brieuc and the Channel Islands.

Coastwise.—*Sunderland, Newcastle, Seaham,* Blyth.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports : Timber, grain, butter, eggs.

Rags are imported.

Exports : Nil.

No passenger traffic. No immigrants or transmigrants.

8. *Amount of Shipping Inwards during three years* 1890–91–92 :—

Class of Vessel.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	2	6,020	5	7,717	12	6,280
	Sailing	28		35		22	
	Fishing	—		—		1	
	Total Foreign	30	6,020	40	7,717	35	6,280
Coastwise.	Steamers	1	225,731	1	22,842	1	242,881
	Sailing	358		333		350	
	Fishing	—		—		—	
	Total Coastwise	359	22,573	334	22,842	351	242,881

9. *Inland Water Communication :—*

Schooners of 170 tons as well as smaller craft pass up the River Arun as far as Arundel. These vessels are mostly coasters, but occasionally a vessel from the Channel Islands goes to Arundel.

There is also a considerable river-barge traffic (sand, chalk, &c.) up the Arun and its tributary the Rother. These barges go to Arundel for the most part ; but a few go as far as Amberley, Bury, or Pulborough.

It is not considered that any traffic goes along the canal that connects these waters with the Wey (near Guildford) ; this canal is said to be "weeded up."

There has not been much supervision (on the part of the Littlehampton Port Sanitary Authority) of the inland water traffic.

10. *Lines of Railway Conveying Goods from Port :—*

London, Brighton, and South Coast Railway.

11. *Medical Officer of Health :* Francis Edward Haydon.

Qualifications :—M.B., L.R.C.P. & S. Edin. Salary, 12*l.* 12*s.* per annum, with repayment.

Character and efficiency of work done by Medical Officer of Health :—The amount of work done by the Medical Officer of Health is small.

12. *Inspector of Nuisances:* Harry Howard.

Qualifications:—F.S.I. and M.S.A. Salary, 10*l.* 10*s.* per annum, with repayment. Mr. Howard also acts as Surveyor and Inspector of Nuisances to Littlehampton Urban Sanitary Authority.

Character and efficiency of work done by Inspector of Nuisances:—Mr. Howard is a capable officer. His Port duties, however, do not receive as much attention as is desirable.

13. *Nuisances.* Number of vessels inspected, foreign and coastwise, respectively during 1890-91-92, with number reported defective and number of orders issued in each year:—

Year.	Number inspected. Foreign.	Number inspected. Coastwise.	Number defective.	Orders issued.
1890 - -	3	34	11	11
1891 - -	7	39	9	9
1892 - -	4	38	11	11
Total -	14	111	31	31

NOTE.—The Inspector of Nuisances pointed out that many of the coasting vessels were constantly coming and going at short intervals, and that he did not inspect each on its return after a short absence. To this fact he attributed, in part, the small number of inspections.

14. *Isolation Hospital:—*

Neither the Littlehampton Port Sanitary Authority nor the Littlehampton Urban Sanitary Authority has any hospital for infectious diseases. In the autumn of 1892, however, in view of the prevalence of cholera on the Continent, the Port Sanitary Authority took steps towards hiring for hospital purposes a building in Littlehampton. With regard to this building, the Port Sanitary Authority's minutes (meeting of August 29th 1892) set forth that "the landlord, being pressed "consented to let the same for the purpose (of a hospital) "on terms to be arranged." No terms, however, had, at the time of inspection, been arranged. This building is a three-storey structure built of stone. It was formerly a saw-mill, but was disused at the time of inspection. It is situated at the head of River Road (a street in Littlehampton), and abuts on the east bank of the Arun on the one hand, and on a road over which there is a public right of way on the other. It is in close proximity to a dwelling, formerly used as a Custom-house, but untenanted at the time of inspection. With the exception of a few square yards of wharf, no land goes with the building other than the ground on which it stands. Access is had to it both by the road and from the river. There are two rooms on the ground floor, three on the first floor, and three on the second floor, as follows:—

Ground floor: two rooms:—

19′ × 27′ and 10′ high - 5,130 cubic feet space.
32′ × 29′ × 13′ high - 12,064 „ „

First floor: three rooms:—

14′ × 10 × 7′ high	-	980 cubic feet space.
11′ × 10′ × 7′ high	-	770 „ „
15′ × 13′ × 7′ high	-	1,365 „ „

There is a watercloset on this floor, but it is not in working order. One of the rooms has no fireplace.

Second floor: three rooms:—

10′ × 10′ × 8′ 6″ high	-	850 cubic feet space.
11′ × 10′ × 8′ 6″ high	-	935 „ „
15′ × 13′ × 8′ 6″ high	-	1,657 „ „

One room on this floor has no fireplace.

The staircase leading from the ground floor to the upper floors is very narrow and is ill-suited for the passage of a sick person.

It is proposed to use the first-floor rooms as wards, and these, accordingly, as well as the staircase leading thereto, and the landing, have been cleansed. The wall papers have been stripped off, walls white-washed, and woodwork washed. Some small repairs have been made by the Port Sanitary Authority. There is no sink in connection with the building. No provision exists for the reception or the disposal of excreta; it is proposed to collect patients' excreta in buckets and to empty the contents of these, mixed with disinfectants, into the river during ebb-tide; or to bury the excreta in neighbouring unused ground. There are no laundry or mortuary arrangements. The Littlehampton water and gas are laid on inside the building.

The Clerk and the Medical Officer of Health have been authorised by the Port Sanitary Authority to order "such bedding "and utensils when and as may be required, and to provide "a trained nurse during the emergency." Arrangements have been made, accordingly, for the provision, within one and a half to two hours after receipt of notice, of "bedsteads complete," at 35*s*. each, and of a cooking-stove at 42*s*. No other provision of any sort has been made, and no nursing arrangements have been entered into.

Ambulance Provision.—The Port Sanitary Authority has no ambulance of any description for conveyance of patients either by land or by water.

Huts.—The East Preston Guardians possess two portable wooden huts on wheels, kept at the workhouse some 3 miles from Littlehampton; each is stated to be capable of accommodating one patient. In 1888 the Guardians consented to a request preferred at that time by the Littlehampton Port Sanitary Authority that the latter might be permitted to use these huts in case of emergency arising in their district. This consent was subject to conditions that the huts would be lent only when not required by the Guardians, and that after use by Port Sanitary Authority, they should be returned to the Workhouse at the earliest opportunity entirely free from infection.

15. *Disinfecting Apparatus:—*

The Port Sanitary Authority possesses no disinfecting apparatus.

16. *Mortuary:—*

The Port Sanitary Authority possesses no mortuary.

17. *Regulations under Section* 125 *Public Health Act*, 1875.

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889.

Not adopted by the Port Sanitary Authority.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

"Alongside the Customs Watch-house" (Board of Trade Order 43, May 3rd, 1876). The Customs Watch-house is situated on the East bank of the River Arun, about 500 yards above its mouth. At this point the river is, at high tide, about 150 yards wide.

There is only one place of debarkation in the Port Sanitary District, viz: Littlehampton. The Boarding Station for vessels coming from foreign, and for vessels coming coastwise is the same.

All vessels, whether from foreign or coasters, are boarded on arrival in the district by the Coastguard, who have a station on the East bank of the Arun, some 300 yards below the Customs Watch-house. All vessels are subsequently boarded by the Customs at the quays.

Procedure as regards boarding is the same by night as by day, there being always a man on duty at the Coastguard Station all night. In case of any vessel arriving by night, the Coastguard Officer communicates with a Customs Officer, who boards the vessel at once.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

Vessels with sickness on board would be detained by the Customs, who would communicate at once with the Medical Officer of Health.

Detention would be resorted to by night as well as by day.

Pilots:—All vessels of 30 tons or upwards entering the port have to be piloted into the harbour. There are only two licensed Pilots at Littlehampton, both of whom reside there, and no vessel of the tonnage mentioned is brought into the harbour by any other person licensed or unlicensed, except such vessels as are in the command of a master having a pilotage certificate granted under the Shipping Act, or such vessels as have on board a mate similarly qualified. The two Pilots, above referred to, have received instructions from Captain Sewell, the Harbour Master (who is a Pilotage Commissioner for the Port), to bring to at the Boarding Station any vessel, whether coming foreign or coastwise, that has sickness on board. These pilots have also been instructed by him to ask, immediately on boarding vessels, the Customs questions as to health on board.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—

By special messenger. The Medical Officer of Health lives at Littlehampton.

d. Means provided or Facilities given for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority has no launch or boat. Ordinarily the Medical Officer of Health walks on board, the vessel having been brought alongside a quay. The Medical Officer of Health states that if he should have to board a vessel in the stream, he would, if necessary, hire a boat at his own expense.

e. Mooring Station :—

The mooring station is situated at Runcorn Piles, on the East bank of the Arun, about ¾ mile above the mouth of the river, and above the town of Littlehampton. There are no houses near; there is a right of way, however, along the east bank, but this is said to be little used. It appears to be the best situation available for a mooring station. It is within Littlehampton Customs Port and also within the Port Sanitary District, and has been approved of by the Chief Officer of Customs.

f. Inspection of Vessels ("infected" or from "infected port") :—

"Infected" vessels, and vessels from "infected ports," will be inspected by the officers of Port Sanitary Authority.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

Persons on board "infected" vessels, or on vessels from "infected ports," will be inspected by the Medical Officer of Health.

h. Address Book :—

None kept.

i. Special Isolation Provision for Cholera :—

None other than the building which it is proposed to utilise for hospital purposes as described under section *i.*

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

None other than the building referred to under section i.

l. Means provided for transfer of infected Persons from Ship to Hospital :—

None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

The only available means of disinfection are sulphur fumigation, washing, and whitewashing.

n. Arrangements made as to the Disposal of the Dead :—

There is a public cemetery in Littlehampton Urban Sanitary District. The Burial Board is much the same body as the Port Sanitary Authority, and no difficulty is anticipated as regards burial of Cholera dead.

o. Action as to Water Supply of Vessels from infected Ports :—

The powers under Board's Order will, when considered necessary, be utilised. The water supplied would be from the Littlehampton public supply, which is derived from a deep well in the Chalk.

p. Action as to Bilges of Vessels from infected Ports :—

The powers under the Board's Order will, when considered necessary, be utilised.

Final Conference with the Littlehampton Port Sanitary Authority was held on March 13th, 1893, when formal recommendations were made with regard to the following matters :—

1. The necessity for regular inspection of the sanitary condition of all vessels entering the Port : and the steps to be taken to secure medical inspection of all vessels entering the Port.
2. The provision of suitable ambulance accommodation : and of means for conveyance of the Port Sanitary Authority's inspecting officers by water.
3. The provision of sufficient and suitable hospital accommodation.
4. The provision of a mortuary.
5. The provision of an efficient disinfecting apparatus.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

The Port Sanitary Authority is about to purchase a marquee 40 ft. × 14 ft. in size, so that in case of need it may be at once erected on a site (near the river) which the Duke of Norfolk has consented to let to the Authority for the purpose, and a concrete floor is to be laid down. [Letter from the Port Sanitary Authority, dated 12th July 1893.]

During 1893 all ships entering the Port examined : in the case of one vessel which came from an infected port the water and bilge pumped out ; the house obtained to serve as a hospital given up, and arrangements made for a supply of tents to be erected on a piece of ground close to the river. [Port Medical Officer of Health's Report for 1893.]

SECTION IX.

Customs Ports of Portsmouth, Southampton, and Cowes.

Illustrated in Map IX.

LIMITS OF CUSTOMS PORTS.

(31.) *Portsmouth.*

The limits of the said Port shall commence at the most westwardly part of the Parish of Bosham, in the County of Sussex, being the western limits of the Port of Arundel, from thence down Bosham Creek, seaward to within three miles from low-water mark of Bembridge Point, in the Isle of Wight, from thence in a north-westerly direction along the outer edge of the Motherbank, between the mainland and the said Isle of Wight to the west end of the Bramble Shoal, and from thence to Hill Head, in the County of Southampton, being the limits of the Port of Southampton.

Date of Treasury Warrant, 20th day of November 1852.

Within the boundaries of this Customs Port are included the Port Sanitary District of Portsmouth and certain Riparian Parishes of the Rural Sanitary Districts of Westbourne, Havant, and Fareham. Shipping trade is practically confined to the Portsmouth Port Sanitary District, as to which see page 340.

(32.) *Southampton.*

The limits of the said Port shall commence at Christchurch Head, in the County of Southampton, being the eastern limit of the Port of Poole, and continue from thence eastwardly along the coast of the said County to Hurst Point, in the said County, and thence seaward to the distance of three miles from low-water mark of the coast of the said County, thence from an imaginary point midway between the Hurst Point and the nearest land of the Isle of Wight in a direct line eastward along the Solent Water to the west end of the Brambles Sand, thence to Hill Head, in the said County, and thence up the stream called the Southampton Water, to the town of Southampton, and to Redbridge and to Ealing including the whole of the Southampton Water, and*

Date of Treasury Warrant, 3rd day of March 1855.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Southampton, the Urban Riparian Sanitary Districts of Lymington and Christchurch, and certain Riparian Parishes of the Rural Sanitary Districts of New Forest, Lymington, and Christchurch. The shipping trade is practically confined to the Southampton Port Sanitary District and to the Lymington Urban Riparian Districts; reports as to each of these districts will be found at pages 349 and 357 respectively.

(33.) *Cowes.*

The limits of the above Port "commence at the extreme western point "of the Bramble Shoal, thence in a supposed straight line to Hurst "Castle Light, thence round the western, southern, and eastern sides of "the Isle of Wight to the extent of three miles from low-water mark

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* See footnote, page 78 *ante*.

agram Map showing the Sanitary Districts, rt and Riparian comprised in the Customs rts of Portsmouth, Southampton and Cowes. rt Sanitary Districts are marked blue, ban riparian Districts red, and Rural ri- rian Districts alternately green & yellow. regards these Rural Districts each Parish at is riparian is separately designated.]

I Portsmouth II Southampton III Cowes Port Sanitary Dis-tricts

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" until they terminate at a point three miles from the low-water mark off
" Bembridge Point in the said Isle, being the eastern limits of the Port
" of Portsmouth, and thence westwardly along the inner edge of the
" Motherbank between the mainland and the said Isle till they terminate
" at the said western point of the Bramble Shoal, together with "*

Date of Treasury Warrant, 12th day of June 1868.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Cowes, the Urban Riparian Sanitary Districts of East Cowes (part of), Ryde, St. Helen's, Sandown, Shanklin, Ventnor, and West Cowes (part of), and certain Riparian Parishes of the Isle of Wight Rural Sanitary District. The shipping trade is practically confined to the Port Sanitary District of Cowes, as to which see report at page 359.

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* See footnote, page 78, *ante*.

Portsmouth Port Sanitary District.

[Portsmouth Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* February 9th and 10th, 1893.

Date of Order *permanently* constituting Port Sanitary District: September 8th, 1893.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "The Mayor, Aldermen, and "Burgesses of the Borough of Portsmouth acting by the "Council."

It exercises port functions in waters abutting upon the Urban Sanitary Districts of Portsmouth, Gosport and Alverstoke, Fareham, and Havant, and upon the Rural Sanitary Districts of Fareham, Havant, and Portsea Island.

2. *Limits of Jurisdiction:—*

"So much of the Port of Portsmouth as lies to the east of a line drawn due south from the most southerly point of the Pier of the London and South-Western Railway Company at Stokes Bay to a point 50° 45′ N. lat.; to the west of a line drawn due south to the same parallel of latitude from the south-eastern extremity of the common boundary of the Parishes of Havant and Warblington; and to the north of a line drawn due west along the same parallel of latitude from the point at which the line lastly herein-before mentioned meets the said parallel to the point secondly herein-before mentioned; together with the waters of the said Port of Portsmouth within such limits,"* &c.

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Portsmouth Urban Sanitary District. Parishes:—Portsmouth and Portsea.

Gosport and Alverstoke Urban Sanitary District. Parish:—Alverstoke.

Fareham Urban Sanitary District. Parish:—Fareham.

Havant Urban Sanitary District. Parish:—Havant.

Fareham Rural Sanitary District. Parishes:—Porchester, Widley, Wymering, and Farlington (part of).

Havant Rural Sanitary District. Parishes:—North Hayling, South Hayling Bedhampton, Warblington and Farlington (part of).

Portsea Island Rural Sanitary District. Parish:—Great Salterns.

4. *Apportionment of Expenses:—*

The Port Sanitary expenses are borne wholly by the Portsmouth Urban Sanitary Authority.

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* See footnote, page 89, *ante*.

5. *General Character and Efficiency of Administration :—*

There is considerable room for improvement in the administration of this Port Sanitary District. The supervision exerted over shipping in the port waters is insufficient; and the organisation is in certain other respects, specifically dealt with in the "Recommendations" made at the final conference, incomplete or unsatisfactory.

6. *Ports from whence Ships arrive.* (Ports or places (foreign and coastwise) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

FOREIGN.—Antwerp, *Amsterdam*, *Baltic Ports*, *Barfleur*, *Cherbourg*, Havre, *Roscoff*, Rouen, Dieppe and adjacent French Ports, Oporto and Corunna (now discontinued on account of restrictions on the cattle trade), Hamburg, *Rotterdam*, *Channel Islands*, Gallipoli and Gioja, Rangoon, Quebec.

COASTWISE.—Northern coal ports: Newcastle, Sunderland, &c., Arbroath, Montrose, *Glasgow*, *Cardiff*, Portland, *Plymouth*, *London*, *Dublin*.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

IMPORTS :

Foreign.—Potatoes, timber, grain, refined sugar, moss-litter, stone, onions, ice.

Coastwise.—Coal, stone, iron, cement, petroleum, soda, cattle (until lately).

EXPORTS :

Foreign.—Coke and pitch, pottery.

Coastwise : Scrap iron.

No rags are imported.

No immigrants or transmigrants arrive at this port. Nor are there any passengers from foreign to Portsmouth, except officers and men belonging to the Army and the Royal Navy, and a few persons who come over from France during the summer months to sell onions in this country.

8. *Amount of Shipping Inwards during three years* 1890-91-92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	38	19,846	45	30,131	18	12,491
	Sailing	226	27,151	267	22,450	238	22,357
	Fishing	No record.				31	775
Total Foreign		264	46,997	312	52,581	287	35,623
Coastwise	Steamers	9,243	937,598	9,295	922,759	9,475	970,328
	Sailing	4,754	434,305	4,650	413,294	4,851	490,707
	Fishing	About 20 or 25 vessels, averaging 10 tons each, employed in the Channel, making on an average about two trips a week.					
Total Coastwise		13,997	1,371,903	13,945	1,336,053	14,326	1,461,035

The greater part of the steamers "Coastwise" consists of passenger boats from the Isle of Wight and Southampton.

9. *Inland Water Communication :—*

By creeks to Gosport, Fareham, Porchester, and Cosham.
There is no canal traffic.
The supervision of inland traffic by the Port Sanitary Authority is imperfect.

10. *Lines of Railway conveying Goods from Port :—*

London, Brighton, and South Coast Railway.
London and South-Western Railway.

11. *Medical Officer of Health :* Bonner Harris Mumby.

Qualifications :—M.B., C.M., D.P.H. No separate salary is attached to the office of Port Medical Officer of Health. Dr. Mumby also acts as Medical Officer of Health to the Portsmouth Urban Sanitary District; as the Superintendent of the Borough Hospital for Infectious Diseases; and as Public Analyst for the Borough of Portsmouth. The salary he receives is considered to include remuneration for his port duties, as well as for those entailed by these other appointments held by him. This salary is without repayment.

Character and efficiency of work done by Medical Officer of Health :—

Dr. Mumby is a capable and energetic officer. He is, however, hindered in his administration of the Port Sanitary District by the insufficient assistance afforded him by the Port Sanitary Authority.

12. *Inspector of Nuisances :* Thomas Meades.

No sanitary certificate. Salary, 25*l.* without repayment.

Mr. Meades also acts as Harbour Master.

Character and efficiency of work done by Inspector of Nuisances :—

This Inspector of Nuisances is an intelligent officer. The amount of inspection done by him is, as regards vessels coming coastwise, inadequate; but regular and thorough supervision of this traffic would require more time than the discharge of his duties as Harbour Master leaves at his disposal.

13. *Nuisances :—*

In the following return of inspections, second visits are included. The Inspector of Nuisances states that orders issued for abatement of nuisances are usually verbal; and that, during the three years covered by the return, a considerable number of these have been issued, and their requirements complied with. But of these verbal notices and their results no record has been kept.

INSPECTION OF SHIPPING IN 1890-91-92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890.	Foreign	Steamers	67	—	—
		Sailing	229	1	1
		Fishing	4	—	—
		Total Foreign	300	1	1
	Coastwise.	Steamers	702	—	—
		Sailing	1,096	—	—
		Fishing	—	—	—
		Total Coastwise	1,798	—	—
1891.	Foreign	Steamers	77	—	—
		Sailing	260	—	—
		Fishing	6	—	—
		Total Foreign	343	—	—
	Coastwise.	Steamers	832	—	—
		Sailing	2,457	—	—
		Fishing	—	—	—
		Total Coastwise	3,289	—	—
1892.	Foreign	Steamers	87	—	—
		Sailing	256	—	—
		Fishing	12	—	—
		Total Foreign	355	—	—
	Coastwise.	Steamers	617	—	—
		Sailing	1,583	—	—
		Fishing	—	—	—
		Total Coastwise	2,200	—	—

14. *Isolation Hospital:—*

The Port Sanitary Authority has hired the "Port Patrick," formerly an Admiralty dredger, to serve as a floating hospital. For this vessel the Port Sanitary District pays 10*l.* a month, half the rent so paid to go towards purchase of vessel should the Port Sanitary Authority resolve to buy her. The Port Sanitary Authority has spent 190*l.* in fitting her up as a hospital and providing stores and movable fittings. At the time of inspection the "Port Patrick" lay in Portsmouth harbour, ready to be towed to any spot that might be selected as a suitable position for a floating hospital.

The "Port Patrick" is a vessel of 230 tons register. She is fitted with a derrick, by means of which it is proposed to

lift patients on board. The accommodation between decks consists of a main cabin, a forecastle, and an after cabin, of the following dimensions :—

Main cabin : 68 × 25 × 10 ft.
Fore cabin : 14·6 × 18 × 10 ft.
After cabin : 7·6 × 20 × 7 ft.

The main cabin has been fitted up to serve as a ward. Access is obtained to it by a somewhat narrow hatchway ; but patients will be conveyed into the ward not by this hatchway, but by larger openings on deck fitted with removable skylights. The main cabin is lighted moderately well by these skylights, which also serve as means of ventilation. Warming is secured by two stoves, of which one is to be used also for cooking purposes. The other, a slow combustion stove, provides hot water for a fixed bath situated on a raised platform in the ward. This platform it is proposed to curtain off from the ward. The ward itself is to be divided by curtains into two parts in case patients of different sexes should have to be treated on board simultaneously. Twelve beds are fitted up in this ward ; and it is furnished with lockers, commodes, tables, and wash-stands.

The fore cabin it is proposed to fit up for accommodation of nursing staff. The after cabin, in which there is a cooking range, was, at the time of inspection, occupied by a caretaker.

There is only one w.c. on board ; this is situated on deck forward. Water is stored in galvanised iron tanks on deck ; these are capable of containing about seven tons of water. There is no laundry on board ; all necessary washing is to be done on deck. There is no mortuary accommodation on board.

Arrangements have been made with six sick-bay stewards to act as nurses for cholera cases if required. No female nurses have been engaged ; but in case of need a nurse could, it is stated, be detached from the Urban Sanitary Authority's hospital.

Ambulance provision. — There is no boat belonging to the "Port Patrick," and the Port Sanitary Authority has no launch or boat that would serve as a water ambulance. It is proposed in case of need to hire a steam launch for this purpose. There was, at the time of inspection, a launch (used for ferrying purposes) in the harbour which the Medical Officer of Health considered suitable, and which he believed could be obtained on hire by the Port Sanitary Authority.

15. *Disinfecting Apparatus :—*

The Port Sanitary Authority has no disinfecting apparatus ; but proposes to use that belonging to the Urban Sanitary Authority, which is a Scott's hot-air chamber. This apparatus is situated at the Urban Sanitary Authority's hospital for infectious diseases, and is a considerable distance from the docks and quays. Goods from shipping would have to be taken through the town if conveyed to this disinfecting station.

16. *Mortuary :—*

The Urban Sanitary Authority possesses a good public mortuary, situated in Portsmouth near the Town Hall. If conveyed to this mortuary from the docks or quays dead bodies would have to be taken through the streets of Portsmouth.

17. *Regulations under section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

The Urban Sanitary Authority has powers under a local Act to compel notification of certain infectious diseases, including cholera ; but it is doubtful whether these powers extend to any part of the Port Sanitary District. In any case such powers would not apply to those parts of the now extended Port Sanitary District which do not abut on the Portsmouth Urban Sanitary District.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The Customs Boarding Station is situated " between Blockhouse Point and the North End of Her Majesty's Dockyard." The only places of debarkation in the Portsmouth Customs Port other than Portsmouth are *Fareham*, which is reached through Portsmouth Harbour, and is therefore controlled by the Customs at Portsmouth; and *Emsworth*, in the upper part of Chichester Creek, which is said to be controlled by the Coastguard at Hayling Island. The Boarding Station is the same for foreign as for coasting vessels, but the Customs do not usually board coasters. Procedure, as regards boarding by the Customs and the Coastguard, is the same by night as by day. There is provision for detention of vessels by the Customs and the Coastguard by night as well as by day.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Vessels coming from foreign are boarded by the Customs at the Boarding Station, and would be detained by the Customs until the arrival of the Medical Officer of Health if there were sickness on board.

There are a few unlicensed Pilots at Portsmouth, and these occasionally pilot into harbour such vessels as are not liable to compulsory pilotage. There is a Pilotage Board at Portsmouth, which has under it some 40 Pilots, and has jurisdiction from Peverell to the Owers, including the Isle of Wight. The Sub-Commissioners of the Pilotage Board have issued a circular instructing Pilots to obey any directions they may receive from the officers of Her Majesty's Customs or of Local Authorities in regard to vessels from parts infected with cholera or suspected to be infected with cholera. The Customs have issued no instructions to Pilots. The Portsmouth Port Sanitary Authority has issued instructions to Pilots to detain all vessels outside the harbour until the Port Sanitary

Authority's officers shall have boarded them. The Queen's Harbour-master has issued instructions to Pilots to bring no vessel inside the harbour without his authority, even although such vessels may have received pratique.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Medical Officer of Health, who resides at Southsea and whose office is in Portsmouth Town Hall, would, if necessary, be communicated with at once by the Customs by means of special messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority possesses no launch or boat for conveyance of the Medical Officer of Health, but has empowered a small committee to hire a launch for this purpose whenever this is considered necessary. At the time of inspection it was not intended to hire a launch unless cholera should make its appearance in the Port Sanitary District. Hitherto the Medical Officer of Health has used a pilot's boat or has hired a wherry at the expense of the Port Sanitary Authority.

e. Mooring Station :—

On the occasion of the Inspector's visit, the position of the mooring station had not been agreed upon.

f. Inspection of Vessels ("infected" or from "infected port") :—

During the autumn of 1892 the Medical Officer of Health inspected every vessel that arrived from any foreign country in which there was an "infected port." Every vessel from a port regarded as infected, as well as every infected vessel, will be inspected by him.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

During the autumn of 1892 all persons on board vessels, whether "infected" or from an "infected port," were either personally interrogated as to their state of health, or inquiries were made regarding their health by the Medical Officer of Health. This procedure will be continued.

h. Address Book :—

No address book is kept. Addresses are taken in an ordinary pocket note-book when the Medical Officer of Health considers this desirable.

i. Special Isolation Provision for Cholera :—

Isolation provision for cholera is provided on board the floating hospital "Port-Patrick" (*see* s. 14).

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

The only arrangements made for isolation of these persons are described under s. 14.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

No means of this sort have been provided. When need arises a steam launch will be hired for this purpose.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods :—*

(*a*) Use of the hot air apparatus belonging to the Urban Sanitary Authority; and boiling or steeping in disinfectants where applicable.

(*b*) Fumigation by sulphur; cleansing; and use of liquid disinfectants.

(*c*) None other than those mentioned under (*a*) and (*b*) should they be applicable.

n. Arrangements made as to Disposal of the Dead :—

It is proposed to bury at sea persons that die of cholera on board ship or on the floating hospital.

On shore there are two public cemeteries.

o. Action as to Water Supply of Vessels from Infected Ports :—

On several occasions in 1892 water on board vessels was dealt with under the Board's Order. It was discharged and replaced from the Portsmouth Urban Sanitary Authority's public water supply at the expense of the Port Sanitary Authority. Water is conveyed to vessels by means of water boats. The same action will be taken in future when necessary in the opinion of the Medical Officer of Health.

p. Action as to Bilges of Vessels from Infected Ports :—

On several occasions in 1892 bilges were pumped out and disinfectants subsequently poured down the bilges. The disinfectant used was carbolic acid. This will be done in future when necessary in the opinion of the Medical Officer of Health.

Final Conference with the Portsmouth Port Sanitary Authority was held on September 20th, 1893, when formal recommendations were made with regard to the following matters;—

1. The necessity for securing the routine inspection, under the Public Health Acts, of all vessels entering the Port.
2. The provision of sufficient and suitable hospital accommodation of a permanent character, and the provision also of means for the conveyance of patients, by water, from ship to hospital.
3. The provision of suitable means for the conveyance of the inspecting officers of the Port Sanitary Authority by water.
4. The adoption, by the Port Sanitary Authority, of the Infectious Disease (Notification) Act, 1889.
5. The provision of a steam disinfecting apparatus.
6. The systematic medical inspection, both by night and by day, of all vessels arriving, not only from foreign infected ports, but also from Grimsby and Hull; and the extension of such medical inspection, should need arise, to vessels arriving from any other British ports which might become infected with cholera.

ACTION TAKEN BY PORT SANITARY AUTHORITY SINCE INSPECTION.

The Port Inspector of Nuisances directed to board all vessels from foreign, and to send for the Medical Officer of Health in all instances where there is sickness on board, or where the vessel is infected or has come from an infected port. The Port Sanitary Authority has ceased renting the "Port-Patrick," and has under consideration the advisability of providing a permanent floating hospital. Arrangements made by the Port Sanitary Authority for the hire of a small steamer to serve as a water ambulance, and to convey the Authority's inspecting officers. The Infectious Disease (Notification) Act adopted by the Port Sanitary Authority. Application made by the Portsmouth Urban Sanitary Authority to the Board for sanction of a loan for a steam disinfecting apparatus. [Letter from the Port Medical Officer of Health, dated August 11th, 1894.]

A mooring station fixed upon to the east of the Motherbank. As this station is outside the Port Sanitary District the Board's sanction was required. This was given by Special Order dated October 27th, 1893.

Southampton Port Sanitary District.

[Southampton Customs Port (part of).]

Inspector: Dr. Theodore Thomson. *Date of Inspection:* March 10th and 11th, 1893.

Date of Order *temporarily* constituting Port Sanitary District: March 15th, 1881.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Southampton acting by the "Council." It exercises port functions in waters abutting upon the Urban Sanitary District of Southampton, and upon the Rural Sanitary Districts of New Forest, South Stoneham, and Fareham.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Southampton as is comprised within the following lines, that is to say—

"A straight line following and coincident with the common boundary of the Customs Ports of Southampton and Portsmouth, and drawn from Hill Head to that point in the said common boundary which is nearest to the Bramble Buoy; a straight line drawn from the last-mentioned point to the most northerly point of Calshot Castle; and a line coincident with the boundary of the said Port of Southampton, and drawn from the last-mentioned point up the stream called the Southampton Water, and following the said boundary to Hill Head aforesaid; together with the waters,"* &c.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Southampton Urban Sanitary District. Parishes:—
All Saints, St. Michael's, St. John's, Holyrood, St. Mary's.

South Stoneham Rural Sanitary District. Parishes:—
Milbrook, St. Mary Extra, Hound, Hamble-le-Rice, Bursledon.

New Forest Rural Sanitary District. Parishes:—
Eling, Dibden, Fawley.

Fareham Rural Sanitary District. Parish:—
Titchfield.

4. *Apportionment of Expenses:—*

The port sanitary expenses are wholly borne by the Southampton Urban Sanitary Authority.

5. *General Character and Efficiency of Administration:—*

A great improvement has been effected in the administration of port sanitary work at Southampton since the last inspection made (in the autumn of 1892). Some matters, however, yet require attention. The inspection of vessels should be put upon a permanent basis; the assistant inspector at present only holds a temporary appointment. The floating hospital, moreover, is not the property of the Port Sanitary Authority, but is merely hired temporarily.

* See footnote, page 89, *ante*.

6. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*) :—

(*a.*) FOREIGN.—*Channel Isles, Havre, Cherbourg, Honfleur,* Bordeaux, *Bremen,* Hamburg (or Brunshausen at time of inspection), Antwerp, *Rotterdam* for Liverpool, and also Java; Brazils and Argentine ports, calling at Vigo; Colon, and ports in West Indies; Cape of Good Hope; New York, China, Australia; Baltic and Black Sea ports; Alexandria.

(*b.*) BRITISH.—*Tyne district, Cardiff,* Newport, Mon., London, Glasgow, Cork, Plymouth. There is also occasional communication with several other ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports: Chiefly grain, sugar, butter, potatoes, eggs, wool, leather.

Exports: Chiefly manufactured goods.

Rags from Channel Islands and France.

Passengers from all ports named above except Baltic, Black Sea, Alexandria, Tyne district, Cardiff, and Newport.

Immigrants few.

Transmigrants from Bremen and Hamburg for Cape of Good Hope.

Considerable number of Italians, &c. expected from Havre for New York per American (Inman) Line.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	1,966	1,801,990	2,030	2,009,400	1,956	1,775,393
Foreign { Sailing	216	33,890	188	34,550	56	30,748
Foreign { Fishing	No official record.				118	5,663
Total Foreign	2,182	1,835,880	2,218	2,043,950	2,130	1,811,804
Coastwise { Steamers	5,012	660,720	5,135	714,163	5,126	717,334
Coastwise { Sailing	3,206	119,871	3,416	132,237	3,197	128,484
Coastwise { Fishing	No official record.				109	4,057
Total Coastwise	8,218	780,591	8,551	846,400	8,432	844,875

9. *Inland Water Communication :—*

The River Test navigable to Redbridge and Eling.

The River Hamble navigable to Bursledon for ships, and further for barges.

The River Itchen navigable to Northam, Southampton.

Traffic on the above rivers is stated to be supervised by both Customs and Coastguard officers.

Prior to the date of inspection the supervision of this traffic by the Port Sanitary Authority had not been satisfactory.

10. *Lines of Railway conveying Goods from Port :—*

London and South-Western Railway.

11. *Medical Officer of Health:* Arthur Wellesley Harris.

Qualifications:—M.R.C.S., L.S.A., D.P.H. Salary, 100*l.* per annum, with repayment.

Mr. Harris also holds the appointment of Medical Officer of Health to the Southampton Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health:—Mr. Harris has held this office only since the end of November 1892. Prior to that date the sanitary organisation of the port was very indifferent. Since his appointment a great change for the better has taken place. Mr. Harris has shown both energy and ability in the discharge of his duties as Port Medical Officer of Health.

12. *Inspector of Nuisances:* Robert William Lee.

No sanitary certificate. Salary, 35*s.* per week, with repayment.

Mr. Lee devotes his whole time to his duties. There is also a temporarily appointed Assistant Inspector of Nuisances, Edward Low, who gives his whole time to his duties, and receives a salary of 30*s.* per week.

Character and efficiency of work done by the Inspector of Nuisances:—

The Inspector of Nuisances appears to be conversant with his duties and to be a fairly good officer.

13. *Nuisances:*—

On comparison with figures as to amounts of shipping inwards (section 8 *ante*) it will be noted that inspections of vessels coming from foreign in 1892 are more numerous than vessels reported by Customs as having entered the port in that year. This is attributed to the inclusion of second inspections of vessels in this return.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	1,600	1	1
		Sailing	150	1	1
		Fishing	—	—	—
	Total Foreign		1,750	2	2
	Coastwise.	Steamers	1,398	15	15
		Sailing	2,169	58	58
		Fishing	3	—	—
	Total Coastwise		3,570	73	73

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	1,628	15	15
		Sailing	127	4	4
		Fishing	—	—	—
		Total Foreign	1,755	19	19
	Coastwise.	Steamers	1,410	18	18
		Sailing	2,430	51	51
		Fishing	—	—	—
		Total Coastwise	3,840	69	69
1892	Foreign	Steamers	2,111	69	66
		Sailing	281	13	13
		Fishing	—	—	—
		Total Foreign	2,392	82	79
	Coastwise.	Steamers	1,130	13	13
		Sailing	1,734	41	39
		Fishing	8	2	2
		Total Coastwise	2,892	56	54

14. *Isolation Hospital:—*

The Port Sanitary Authority possesses a floating hospital hired at 60*l.* a month for a period of six months dating from February 1st, 1893. This hospital consists of a vessel moored in the least frequented part of the river, between Marchwood Magazine and Cracknore Hard. It is about three-quarters of a mile distant from the north shore, and about half a mile distant from south shore of the river, and is about two miles distant from docks or landing-stages.

The hospital is an iron vessel of 1,500 tons register, known as the s.s. "Morglay." She has accommodation as follows:—

Saloon: reserved for female staff, situated at stern, contains five passenger cabins, bathroom, lavatory.

Male Ward: formed by the between decks from saloon to engine-room. Is 95 × 31 × 7½ feet; and contains nine beds. Floor and walls are of iron, unlined.

Female Ward: formed by the between decks from engine-room to forecastle. Is 64 × 31 × 7¼ feet; and contains nine beds. Walls and floor are constructed as in the male ward.

The male ward is separated from the female ward by air-tight iron bulkheads.

The forecastle is used as a mortuary.

Officers' cabins on deck and amidships are reserved for male staff.

Convenient and separate access is had to both wards. Each ward has a large hatchway glazed with sashes made to open. Lighting of wards is thus sufficiently provided for; but ventilation is not satisfactory. Warming is secured by central iron stoves in each ward. W.C.s for female patients

are situated on deck forward; for male patients on deck amidships.

At the time of inspection this vessel was in use as a small-pox hospital; there being 16 cases of that disease on board.

It may be further stated that the Southampton Urban Sanitary Authority possesses an infectious diseases hospital on land, consisting of a permanent stone building (in bad condition) and a corrugated iron structure. This hospital is situated at West Quay, Southampton.

Water Ambulance provision consists of a boat belonging to the vessel just referred to. This boat, when used for ambulance purposes, is usually towed by a steam launch hired by the Port Authority.

15. *Disinfecting Apparatus:—*

The Port Authority has no disinfecting apparatus, but uses a hot-air chamber (Fraser's) belonging to the Southampton Corporation. At the time of inspection the last-named Authority had ordered a steam disinfecting chamber, which would be available for port work.

16. *Mortuary:—*

The forecastle of the floating hospital is used as a mortuary. There is also a mortuary at the urban hospital on West Quay; and a public mortuary is now in course of erection on Town Quay.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

One (in the Port Sanitary District) "between Hamble Spit "Buoy and Itchen Buoy"; a second (outside the Port Sanitary District) at Lymington Quay. (Board of Trade Order $\frac{43}{1876}$.)

Places of debarkation in the district are Southampton docks and quays, Hamble, Warsash, Hythe, Marchwood, Redbridge, Eling, Northam, and Itchen. Coasters are only occasionally boarded by Customs or Coastguard, and when this is done the boarding usually takes place while the vessel is lying in dock. All vessels coming from foreign, other than those from the Channel Isles, are boarded either at a point about half a mile below Hythe Pier and in the centre of the deep-water channel, or else at some point still lower down the Southampton Water. The practice as regards boarding is the same by night as by day. Marchwood, Redbridge, Eling, Northam, and Itchen and Hythe are all above the point at which vessels from foreign are usually boarded by the Customs; there are no Customs' Officers at these places of debarkation. There is,

however, a Coastguard Station at Hythe. At Hamble and Warsash there are no Customs' Officers; but Coastguard Officers board there for putting questions, &c.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

Vessels that are infected with cholera or that have sickness on board will be detained by the Customs or the Coastguard. Such detention would be by the Customs at all parts of the Port Sanitary District save Warsash, Hamble, or Hythe, where the Coastguard would perform this duty. Officers are on watch by night as well as by day at all parts of the district, and procedure would be the same by night as by day.

Pilots: There is a Pilotage Board, under the Trinity House, at Southampton, and the Chief Officer of Customs is a Sub-Commissioner thereof. According to the Chief Officer of Customs unlicensed Pilots are not numerous at Southampton. No instructions to Pilots have been issued by the Sub-Commissioners; but the Port Sanitary Authority has requested the shipping companies trading to Southampton to instruct Pilots to stop vessels so as to permit of the Medical Officer of Health boarding them.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—

Save in case of detention at Warsash or Hamble, communication with the Medical Officer of Health, who resides at Southampton, would be by special messenger. In case of detention at Warsash or Hamble, the detaining officer would telegraph Customs at Southampton, who would then communicate with the Medical Officer of Health by special messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer to Ships:—

The Port Sanitary Authority hired a steam launch at 55*s.* per 24 hours last autumn. The same launch is still hired by them at 42*l.* a month. This launch serves to convey the Authority's inspecting officers: and is also used as an ambulance for persons free from infection, as well as to tow the water ambulance referred to in section 14.

e. Mooring Station:—

The mooring station is situated about 300 yards south-west of the Greenland Shoal Buoy in the Southampton Water. It has been approved of by the Customs and is situated within Southampton Customs Port and Southampton Port Sanitary District. The station is satisfactory.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Medical Officer of Health has hitherto inspected all "infected" vessels, and all vessels from ports regarded as "infected." All vessels coming from foreign are hailed by the Port Sanitary officers at a point about half a mile below Hythe Pier and questions are asked as to whence the vessel has come and as to the health of persons on board. This procedure will continue to be pursued.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

The captain, the doctor, the steward, and the stewardess are questioned as to whether there has been any sickness on board during voyage. If reply be in the negative the captain and doctor (if there be a doctor on board) are requested to sign a document to that effect. Passengers are mustered in saloons and crew on deck, and all are questioned as to their health: and their names and addresses are taken. No further "medical" examination is made of any person unless the Medical Officer of Health regards such person's apparent state of health as suspicious.

h. Address Book:—

An address book is kept; foils are sent on to proper quarter when necessary, and counterfoils are preserved.

i. Special Isolation Provision for Cholera:—

The floating hospital described in section 14.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

None other than in the floating hospital.

l. Means provided for transfer of infected Persons from Ship to Hospital:—

Boat belonging to the floating hospital.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) By hot-air chamber. A steam disinfector is about to be provided.

(*b.*) Fumigation with sulphur; washing and cleansing; use of perchloride of mercury solution.

(*c.*) Such of the means already dercribed as may be applicable.

n. Arrangements made as to the Disposal of the Dead:—

The Burial Board is the same body as the Port Sanitary Authority. No difficulty is anticipated with respect to the proper disposal of the dead.

o. Action as to Water Supply of Vessels from Infected Ports:—

The Board's Order on this point has frequently been put in effect and will be enforced when the Medical Officer of Health considers this procedure desirable. The water supplied to vessels by the Port Sanitary Authority is obtained from the Southampton public water supply and at the cost of the Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports:—

The Board's Order on this point has frequently been put in effect, and will be enforced when desirable in the opinion of the Medical Officer of Health. The bilge is pumped out, disinfectant (perchloride of mercury) is added, and the bilge is again pumped out.

Final Conference with the Southampton Port Sanitary Authority was held on March 27th, 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of a permanent inspecting staff sufficient to ensure the regular and thorough inspection of vessels entering the port.
2. The provision of a permanent hospital.
3. The adoption of "The Infectious Disease (Notification) Act, 1889."
4. The steps to be taken beforehand to ensure, in the event of any marked extension of cholera in Europe, the medical inspection of all vessels entering the port.

ACTION TAKEN BY PORT SANITARY AUTHORITY SINCE INSPECTION.

The Southampton Port Sanitary District was *permanently* constituted by an order of the Board on June 8th, 1893. The district thus permanently constituted is, as regards constitution, limits of jurisdiction, riparian districts included, and apportionment of expenses, the same as the temporarily constituted district described in this report.

The Port Sanitary Authority has purchased and fitted up a vessel at a cost of 5,500*l.* to serve as a floating hospital, and has also purchased a steam launch at a cost of 600*l.* to convey its inspecting officers, and to serve as an ambulance. The Urban Sanitary Authority has procured a steam disinfecting chamber, available for use when required by the Port Sanitary Authority.

The Infectious Disease (Notification) Act, 1889, was adopted by the Southampton Port Sanitary Authority September 19th, 1894.

LYMINGTON URBAN RIPARIAN SANITARY DISTRICT.

[Southampton Customs Port (part of).]

Inspector: Dr. S. M. Copeman. *Date of Inspection:* November 17th, 1893.

The Riparian District is under the jurisdiction of the Town Council of the Borough of Lymington. The coast line extends from the south-western extremity of Oxey Reach on the west to Parsford Stream on the east.

Shipping Trade:—

FOREIGN.—*Gothenburg.*

Imports.—Timber and moss-litter.

Exports.—Nil.

COASTWISE.—*Sunderland, Seaham Harbour, Hartlepool,* London, Isle of Wight, Southampton, Plymouth.

Imports.—Coals, manure, moss litter, slates.

Exports.—Sand and timber.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	2	336	2	364	2	369
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	2	336	2	364	2	369
Coastwise { Steamers	890	37,767	868	36,867	859	36,456
Coastwise { Sailing	163	7,014	153	7,580	158	8,501
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	1,053	44,781	1,021	44,447	1,017	44,957

Goods are conveyed from this Riparian District by the London and South-Western Railway.

Chief Facts reported as regards Administration.—No riparian duties had prior to inspection been carried out, either by the Urban Medical Officer of Health (John Kendall, F.R.C.S.), or by the Urban Inspector of Nuisances (Oswald A. Bridges, C.E).

The Sanitary Authority had not provided any isolation accommodation, nor a disinfecting apparatus, nor a mortuary.

The Infectious Disease (Notification) Act, 1889, was adopted July 1st, 1891. No regulations have been made under Section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. *Customs Boarding Station or Stations.*—At "Jack o' the Basket" (a post at entrance to the river). Foreign vessels only are boarded here; coasters being boarded at the Quay.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—There is only one Pilot, who is under the Trinity House. He meets all vessels that want a pilot, out in the Solent, and has been warned by the Customs Officer not to board a vessel until he has learnt that there is no case of infectious disease.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—The Town Clerk had arranged with the Customs Officer for the latter to inform him if a foreign coming vessel should appear with infectious illness on board.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—None.

e. Mooring Station.—From local information it appeared that the Mooring Station is in the neighbourhood of "Jack o' the Basket," but, as this is also the boarding station for foreign-coming vessels, it is obviously an undesirable position for a mooring station also.

f. Inspection of Vessels ("infected" or from "infected port").—Nothing done.

g. Examination of Persons on Vessels ("infected" or from "infected port").—Nothing done.

h. Address Book.—Not provided.

i. Special Isolation Provision for Cholera—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made.

l. Means provided for transfer of infected Persons from Ship to Hospital.—None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods.—None made.

n. Arrangements as to the disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports. –No action taken.

p. Action as to Bilges of Vessels from Infected Ports.—No action taken.

Final Conference with the Lymington Urban Riparian Sanitary Authority was held on November 13th 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for the exercise, as a matter of routine duty, of regular and thorough supervision of all vessels entering the district, with a view to the abatement of nuisances and unwholesome conditions generally.
2. The steps to be taken to secure medical inspection of vessels coming from cholera infected ports.
3. The provision of proper hospital communication, an efficient disinfecting apparatus, an ambulance, and a proper mortuary.
4. The adoption of regulations under section 125 of the Public Health Act, 1875.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

"The Authority have arranged for the Coastguard and Customs Authorities at Lymington to report to them the arrival of any vessels or boats in the Lymington River having infection, or likely to have infection, on board."

The Authority have resolved not to incur the expense of erecting an isolation hospital. [Letter from Town Clerk, July 27th, 1894.]

Cowes Port Sanitary District.

[Cowes Customs Port (part of).]

Inspector : Dr. Theodore Thomson. *Date of Inspection :* February 7th and 8th, 1893.

Date of Order *permanently* constituting Port Sanitary District, August 5th, 1886.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is a Joint Board termed "the "Cowes Port Sanitary Authority," and consists of 12 representative members as follows :—
Five from the West Cowes Urban Sanitary Authority.
Three from the East Cowes Urban Sanitary Authority.
Two from the Newport Urban Sanitary Authority.
Two from the Isle of Wight Rural Sanitary Authority.
It exercises Port functions in waters abutting upon the East Cowes, West Cowes, and Newport Urban Sanitary Districts, and upon the Isle of Wight Rural Sanitary District.

2. *Limits of Jurisdiction :—*

"So much of the said Port as is situate within, and to the south "of, a line commencing at Old Castle Point, and running "thence to the Buoy at Old Castle Point ; thence north-"westwards in a straight line to the West Bramble Buoy "(being the point of junction of the limits of the several Ports "of Portsmouth, Southampton, and Cowes ; thence south-west-"wards along the limits of the Port of Southampton to a point "north of Egypt Point ; and thence southwards to Egypt "Point, together with the waters of the said Port within, and to "the south of, such boundary line, &c."* The Port Sanitary Authority is not satisfied with the present limits of its jurisdiction, but wishes these to be so extended as to include the whole coast line of the Isle of Wight. One of the grounds on which it bases this claim is that at present persons may land at various parts of the Isle of Wight coastline where little or no sanitary supervision is exerted and that such persons might be the means of introducing cholera into the island. Such landing of persons might be due to the desire of occupants of residences on the island to land at a point of the coast near their abodes ; and the Port Sanitary Authority contends that this occasionally occurs in the case of vessels from foreign, notwithstanding that the Coastguard have instructions from the Customs to prevent such landing and to send all these vessels to Cowes, which is the Customs Boarding Station for the whole island (with one exception). Further, the Port Sanitary Authority points out that vessels coming coastwise are not ordinarily boarded by Customs, and may touch at any part of the Isle of Wight. This state of things

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* See footnote, page 89, *ante*.

might, it is contended, be a fruitful source of danger in the event of our own ports becoming infected by cholera. Further, it is represented by the Port Sanitary Authority that vessels desirous of getting rid of stowaways or sick persons would most probably land these on the southern shore of the island; actually, last year, two stowaways were, it is said, so landed from a vessel proceeding from London to foreign. The Port Sanitary Authority also states that Pilots who navigate vessels up the Solent and Southampton Water return direct to Bembridge, where many of them reside, and that these persons, over whom the Port Sanitary Authority has at present no control, might be a means of introducing cholera into the island. With reference to this last contention the Chief Officer of Customs at Cowes states that such pilots as proceed to Southampton are not allowed to return until the Medical Officer of Health of that port has "passed" them.

These points would justify consideration of the desirability of extension of the Port Sanitary District if the Cowes Port Sanitary Authority were an energetic body likely to provide sufficient staff and suitable equipment for dealing with the extended area it desires. But the Port Sanitary Authority administrates the district now under its jurisdiction in a not too satisfactory manner, and does not apparently realise that the extension of the limits of jurisdiction as proposed would necessitate a very much heavier expenditure than that heretofore incurred; which, notwithstanding, the Port Sanitary Authority appears to consider as already quite heavy enough.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

East Cowes Urban Sanitary District :—The whole.
West Cowes Urban Sanitary District :—The whole.
Newport Urban Sanitary District :—The whole.
Isle of Wight Rural Sanitary District. Parishes :—
Northwood, Whippingham, and Carisbrooke.

4. *Apportionment of Expenses :—*

The constituent authorities contribute towards the expenses in the following proportions :—

West Cowes Urban Sanitary Authority, five twelfths.
East Cowes Urban Sanitary Authority, three twelfths.
Newport Urban Sanitary Authority, two twelfths.
Isle of Wight Rural Sanitary Authority, two twelfths.

5. *General Character and Efficiency of Administration :—*

The Port Sanitary Authority's administration of its district leaves a good deal to be desired.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are indicated in *italics*) :—

Foreign.—*Guernsey*, Jersey, Havre, St. Servant, Boulogne, Dieppe, Dunkirk, and *Scandinavian timber ports.*

Coastwise.—*Southampton, Portsmouth, Goole, North-Eastern coal ports*, Grimsby, *Poole, Swanage, London.*

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports.—Wood, sand, stone, furniture, potatoes.
Exports.—Pottery, cement, bricks.
No immigrants or transmigrants.
No rags imported or exported.
No passenger steamers to the port from foreign.
Several steamers daily to and from Southampton and Portsmouth.
Occasional passenger steamers from Poole, Bournemouth, and Swanage.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Cowes Customs Port.*

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	3	577	2	720	3	459
Foreign { Sailing	12	2,012	17	3,253	16	2,660
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	15	2,589	19	3,973	19	3,119
Coastwise { Steamers	15,234	1,622,761	15,144	1,602,868	14,915	1,574,514
Coastwise { Sailing	5,371	109,825	5,742	116,496	5,611	107,630
Coastwise { Fishing	About a score a year.					
Total Coastwise	20,605	1,732,586	20,886	1,719,364	20,526	1,682,144

The Cowes Port Sanitary District forms but a small part of Cowes Customs Port, which embraces the whole Isle of Wight. As regards vessels from foreign, however, the figures in the foregoing table correctly represent the traffic to the Port Sanitary District. But the coasting traffic in the above table is divided up among several places in the Isle of Wight, including Cowes. A detailed statement is accordingly appended which shows the distribution of traffic coastwise in 1892.

Cowes (Customs Port).

Vessels arrived Coastwise during year 1892.*

—	Sailing Vessels.		Steam Vessels.	
	No. of Vessels.	Tonnage.	No. of Vessels.	Tonnage.
Cowes Port Sanitary District	2,412	62,817	2,827	272,687
Ryde - - -	2,007	27,491	9,853	1,167,694
Bembridge - -	686	7,808	409	29,742
Yarmouth - -	233	4,755	1,826	104,391
Sea View - -	21	504	—	—
Newtown - -	25	385	—	—
Fishbourne - -	227	3,870	—	—
	5,611	107,630	14,915	1,574,514

* This return does not include yachts nor vessels that put into port wind-bound or in distress.

9. *Inland Water Communication :—*

By the River Medina. A considerable number of small vessels go up the Medina. These are trading vessels with cargoes of wheat and coal and provisions; while some vessels go up light to Newport and take cargo from there (cement). None of these vessels are from foreign. Many are barges, the remainder are ketches and smacks. There has been some supervision of this traffic by the officers of the Port Sanitary Authority.

10. *Lines of Railway conveying Goods from Port :—*

The Isle of Wight Central Railway and the Freshwater and Yarmouth Railway convey goods from Cowes and Newport to various parts of Isle of Wight.

11. *Medical Officer of Health :* William Hoffmeister.

Qualifications :—M.D., M.R.C.S., &c. Salary, 20*l.* per annum, with repayment.

Dr. Hoffmeister also holds the appointments of Medical Officer of Health to the East Cowes Urban Sanitary Authority, and to the West Cowes Urban Sanitary Authority.

Character and efficiency of work done by Medical Officer of Health :—

The Medical Officer of Health is a capable officer, who does not, however, under ordinary circumstances, do much port inspection work. In view of the facts that he is in extensive private practice, and that his salary as Port Medical Officer of Health is a very small one, other result is perhaps hardly to be expected. During the period, however, when cholera was prevalent on the Continent in 1892, the Medical Officer of Health personally inspected a considerable number of vessels.

12. *Inspector of Nuisances :* Frank Osborne.

No sanitary certificate. Salary, 20*l.* per annum, with repayment.

Also acts as Harbour Master.

Character and efficiency of work done by Inspector of Nuisances :

The Inspector of Nuisances inspects all or most vessels that come from foreign (yachts excepted). He inspects about eight per cent. of vessels, other than yachts, coming coastwise. The number of yachts, coming either foreign or coastwise, inspected by him is unknown, as of these he keeps no record.

He appears to be an intelligent and steady officer, and makes, according to his records, some nine or ten inspections of vessels per week; or if his statement be accepted that he makes other inspections (of yachts) which are not recorded, this estimate may be somewhat raised

13. *Nuisances:—*

INSPECTION OF SHIPPING IN 1890–91–92.

Year.	No. of Vessels inspected.		Reported Defective.	Orders issued.
	Foreign.	Coastwise.		
1890 - -	20	455	None.	None.
1891 - -	19	458	3 (All three "very dirty.")	In three instances verbal orders given (and carried out) for cleansing and whitewashing.
1892 - -	23	438	None.	None.

These inspections do not include inspections of yachts, which the Inspector of Nuisances states he makes frequently but does not record. He states that during the autumn of 1892, when cholera was prevalent on the Continent, he inspected all yachts entering the port; but of these inspections there is no record in his books.

Comparison of this table with the Customs table, under Section 8, shows that the Inspector of Nuisances inspected more vessels coming from foreign than the Customs record as having entered the port in 1890 and in 1892. This the Inspector of Nuisances attributes to his having included among vessels coming from foreign a few which reached Southampton from foreign and thence went on to Cowes. These would not be recorded by the Customs as having come from foreign to Cowes.

It should be borne in mind in considering the number of inspections of vessels by the Inspector of Nuisances and in estimating the amount of such inspection that should be performed, that more than half the traffic coastwise is steamer traffic. These steamers ply for the most part between Cowes, Southampton, and Portsmouth, and are usually at the Cowes quay for a few minutes only. Inspection of them, accordingly, at Cowes is hardly to be looked for under ordinary circumstances and would more conveniently be carried out at other ports where their stay is longer. In the event, however, of any of the ports at which they touch becoming infected by cholera, regular inspection of these coasting steamers by the officers of the Port Sanitary Authority would be called for.

14. *Isolation Hospital:—*

A schooner yacht of 160 tons has been bought by the Sanitary Authority to serve as a floating hospital, and at the time of inspection was lying in a dockyard at Cowes. She is in good condition and clean, and is well ventilated and lighted. There is suitable administrative accommodation on board in addition to a main cabin, an after cabin, and two small cabins, all of which are to be utilized as wards. In these there are fitted up berths to accommodate 11 patients; but if three patients were

put in the main and one in the after cabin, there would not be more than 1,000 cubic feet air space for each. The height of the cabins is from 6 to 7 feet. Two sexes can be accommodated. It is proposed to moor this hospital ship in the Port Sanitary District at West Bramble Buoy. The vessel was not fitted up at the date of inspection with bedding, furniture, &c., but an agreement had been entered into with a local purveyor to keep these fittings in readiness, and to at once put them on board if required. Nursing arrangements had not been made; the Medical Officer of Health proposes, in case of need, to telegraph to nursing homes at Newport and Southampton for nurses.

A small boat on the vessel is to be used for ambulance purposes.

15. *Disinfecting Apparatus :—*

The Port Sanitary Authority has no disinfecting chamber..

16. *Mortuary :—*

There was no mortuary at the date of inspection. The Port Sanitary Authority proposes to erect a wooden structure on board their hospital ship on the after part of the deck. There is sufficient space on deck to admit of this being done.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Adopted February 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

"The roadstead of Cowes, extending from Old Castle Point to Egypt Point, about 2½ miles from east to west."

The Station as defined above is the only Boarding Station in the Isle of Wight, and to it all vessels coming from foreign must proceed. To this rule there is, by special authorisation of the Commissioners of Customs, an exception made in favour of yachts bringing up in Ryde Roads. In this event a Customs Officer proceeds from Cowes to Ryde Roads, and there boards the vessel. There are two places of debarkation in Cowes Port Sanitary District, viz., Cowes and Newport.

The Boarding Station for vessels coming from foreign and for vessels coming coastwise is the same. Coasting vessels are not ordinarily boarded by Customs (or Coastguard). Procedure as regards boarding by Customs is the same by night as by day.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Customs Officer in charge would detain vessels under the Board's order until the Medical Officer of Health had arrived. This would be done by night as well as by day.

Pilots : A circular has been issued to all licensed Pilots within the district under the control of the Pilotage Board at Portsmouth (which district includes the Isle of Wight) to the

following effect:—"In consequence of cholera having broken "out at several places on the Continent, Pilots are hereby "instructed to obey the directions they may receive from the "officers of Her Majesty's Customs or of the Local Autho- "rities, in regard to vessels from 'infected' or 'suspected ports.'" (Signed by three Sub-Commissioners of Pilotage, and bearing date September 5th, 1892.) The Port Sanitary Authority has instructed Pilots to bring up outside Cowes Roadstead any vessel having on board a suspicious case of sickness, and to signal this fact to the Customs at Cowes.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—

The Customs, on detaining a vessel, would at once communicate with the Medical Officer of Health by special messenger. (The Medical Officer of Health resides at West Cowes.)

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships:—

The Sanitary Authority does not provide a launch or boat for conveyance of its inspecting officers. The Medical Officer of Health has to hire a boat for inspection of vessels lying in the Roads; and the Sanitary Authority does not refund moneys thus expended by him. Sometimes, however, by arrangement, the Medical Officer of Health uses a boat belonging to the Customs.

e. Mooring Station:—

The mooring station is situate immediately south-east of the West Bramble Buoy, and is within Cowes Customs Port and Cowes Port Sanitary District. The situation has been approved of by the Chief Officer of Customs of the district. The situation is a suitable one.

f. Inspection of Vessels ("infected" or from "infected port"):—

Inspection will be made of all vessels that are "infected" or that are from "infected" ports. During the autumn of 1892 several vessels from "infected ports" were inspected by the Medical Officer of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

Examination will be made of persons on board "infected" vessels or on board vessels from ports regarded as infected. This procedure was resorted to during the autumn of 1892.

h. Address Book:—

None kept.

i. Special Isolation Provision for Cholera:—

None other than hospital ship described under Section 14.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

None other than hospital ship described under Section 14.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

The only means provided for this purpose is a small boat belonging to the hospital ship.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

There is no disinfecting chamber belonging to the Port Sanitary Authority. The only means available for purposes of disinfection are sulphur fumigation and the use of solutions of corrosive sublimate and of persulphate of iron. A stock of these articles has been procured by the Port Sanitary Authority.

n. Arrangements made as to the Disposal of the Dead:—

It is proposed to bury at sea persons that have died on board vessels that enter Cowes, and also persons that have died on board the hospital ship. On shore there is (in Cowes) a public cemetery in which persons dead of cholera could be interred.

o. Action as to Water Supply of Vessels from Infected Ports:—

In September 1892, the Port Sanitary Authority caused all water casks on board vessels from infected ports to be emptied and supplied Cowes water in place of the water discharged. In future the Board's Order on this subject will be carried out in all cases where deemed necessary.

p. Action as to Bilges of Vessels from Infected Ports:—

In September 1892, the Port Sanitary Authority caused the bilges to be pumped out of two vessels from infected ports. Disinfection was not performed after pumping out of the bilges, because these were "free from offensive smell." In future the Board's Order on this subject will be carried out in all cases where deemed necessary.

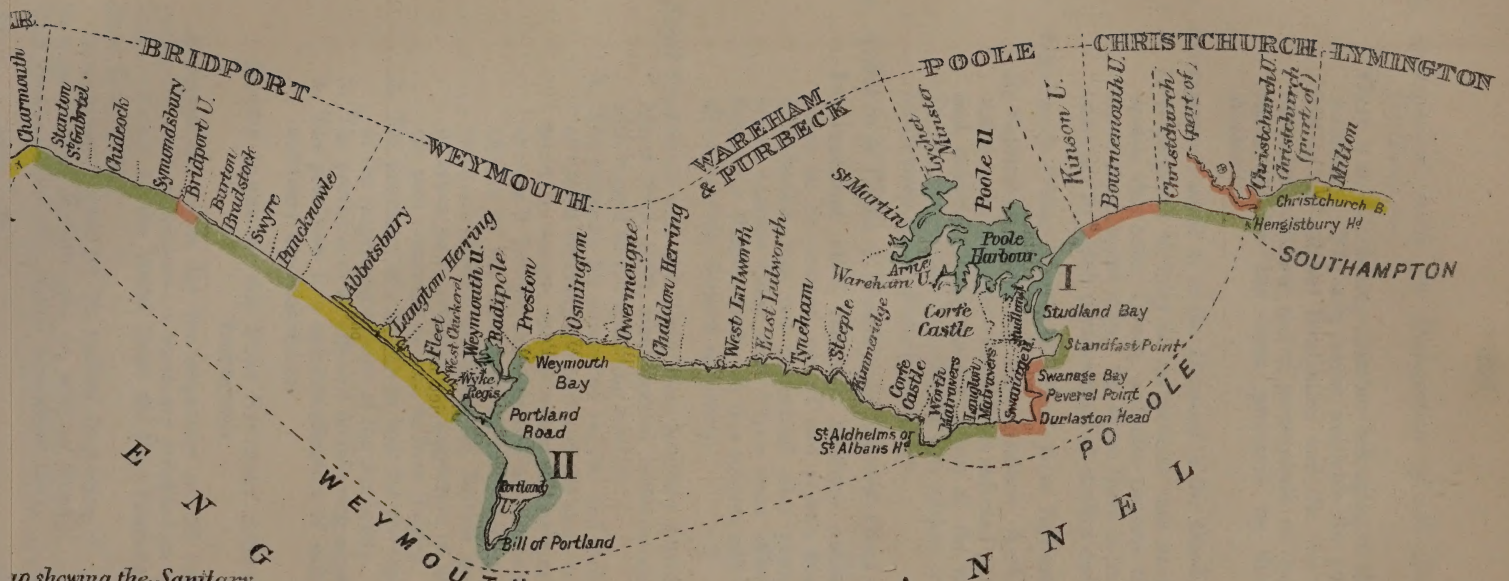
Final Conference with the Cowes Port Sanitary Authority was held on March 28th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for exercising regular and thorough supervision of vessels entering the port and the steps to be taken beforehand to secure, in the event of any marked extension of cholera in Europe, the necessary assistance to their inspecting officers in the discharge of their duties. Further, in the event of cholera extending to British ports, the steps to be taken to secure medical inspection of all vessels entering the port coastwise as well as from foreign.
2. The provision of a launch or boat for the conveyance by water of the inspecting officers of the Authority.
3. The provision of an efficient disinfecting apparatus.
4. The provision in a suitable situation of sufficient and proper mortuary accommodation.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Arrangements made for the inspection of all trading vessels and yachts frequenting the port: a mortuary provided on board the hospital ship. [Letter to the Board from the Port Sanitary Authority, dated June 13th, 1893.]

Arrangements made for the medical inspection of all vessels arriving from an infected British port as well as from [illegible] [Letter from Port Sanitary Authority, dated September 20th, [illegible].]



up showing the Sanitary
Port & Riparian comprised
stoms Ports of Poole & Weymouth.
tary Districts are marked blue,
arian Districts red, and Rural riparian
alternately green and yellow. As regards these
tricts each Parish that is riparian is separately designated.]

I Poole II Weymouth Port Sanitary Districts.

SECTION X.

Customs Ports of Poole and Weymouth.

Illustrated in Map X.

LIMITS OF CUSTOMS PORT.

(34.) *Poole.*

The limits of the said Port shall commence at Christchurch Head, in the County of Southampton, being the western limit of the Port of Southampton, and extend westward to St. Adhelms or Alban's Head, in the County of Dorset, and seaward to the distance of three miles from low-water mark of the coasts of the said counties within the aforesaid limits together with*

Date of Treasury Warrant, 3rd day of March 1855.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Poole, the Urban Riparian Sanitary Districts of Bournemouth, Kinson and Swanage, and certain Riparian Parishes of the Rural Sanitary Districts of Christchurch, and Wareham, and Purbeck. The shipping trade is practically confined to the Port Sanitary District of Poole, as to which, see page 368.

(35.) *Weymouth.*

The limits of the said Port of Weymouth shall commence at St. Alban's Head, in the County of Dorset, being the western limit of the Port of Poole, and shall extend thence in a westerly direction along the coast of the said County of Dorset, to the western bank of the River Char, in the said County, being the eastern limit of the Port of Exeter, and shall include the Island of Portland and*

Date of Treasury Warrant, 22nd day of November 1881.

Within the limits of this Customs Port are comprised the Port Sanitary District of Weymouth, the Urban Riparian Sanitary District of Bridport, and certain Riparian Parishes of the Rural Sanitary Districts of Wareham and Purbeck, Weymouth, Bridport, and Axminster. Shipping trade is chiefly confined to the Weymouth Port Sanitary District, and the Bridport Urban Riparian Sanitary District, as to the former of which see report, page 374.

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* See footnote, page 78, *ante*.

Poole Port Sanitary Authority.

[Poole Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* February 7th and 8th, 1893.

Date of Order *permanently* constituting Port Sanitary District:—September 21st, 1887.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is the Mayor, Aldermen, and Burgesses of the Borough of Poole acting by the Council.

It exercises Port functions in waters abutting upon the Urban Sanitary Districts of Poole, Wareham, and Swanage, and upon the Rural Sanitary Districts of Poole and of Wareham and Purbeck.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Poole aforesaid as lies to the westward of a straight line drawn across the mouth of Poole Harbour, from the easternmost point of North Haven to the easternmost point of South Haven; together with the waters,"* &c.

These limits were not considered satisfactory, and an application was made to the Board asking that the limits might be extended so as to embrace all the waters within a line drawn from Standfast Point to the eastern limits of the parish of Parkstone.†

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Poole Urban Sanitary District.
Wareham Urban Sanitary District.
Swanage Urban Sanitary District.
Poole Rural Sanitary District. Parish:—Lytchet Minster.
Wareham and Purbeck Rural Sanitary District. Parishes:—Studland, Corfe Castle, Arne, and St. Martin.

4. *Apportionment of Expenses:—*

Wholly borne by the Urban Sanitary Authority of the borough of Poole.

5. *General Character and Efficiency of Administration:—*

Moderate.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are indicated by *italics*):—

Foreign.—*Norway, Sweden, Russia, White Sea and Baltic, France, Guernsey,* Jersey, Germany, N.E. Africa, Pensacola, Rosario, Labrador.

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*See footnote, page 89, *ante*. † See page 373, *post*.

COASTWISE.—*Seaham, Sunderland, Newcastle, Shields, Hartlepool, London, Plymouth, Newport, Glasgow, Cork,* Alloa, Grangemouth.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Imports: Foreign.—Timber, grain, oilcake, moss-litter, granite.
Coastwise.—Coal, oilcake, grain, limestone, cement, timber, and petroleum; also general goods from London.

Exports: Foreign.—Clay.
Coastwise.—Elm timber, clay, wood.

During the summer months steamers run to Swanage. Pleasure boats from Bournemouth visit various places on the coast between Brighton and Torquay, and across the Channel to Cherbourg, Guernsey, &c. There is regular communication once weekly by steamers from London and Cowes, and to London, *viâ* Guernsey.

8. *Amount of Shipping Inwards during three years,* 1890–91–92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	13	—	17	—	19	—
	Sailing	98	—	100	—	147	—
	Fishing	—	—	—	—	—	—
Total Foreign		111	—	117	—	166	—
Coastwise.	Steamers (excluding excursions)	88	—	66	—	62	—
	Sailing	831	—	769	—	744	—
	Fishing	—	—	—	—	—	—
Total Coastwise		919	—	835	—	806	—

9. *Inland Water Communication:*—

Nothing above Wareham.

10. *Lines of Railway conveying Goods from Port:*—

London and South-Western Railway, and Somerset and Dorset Railway.

11. *Medical Officer of Health:* Herbert Alfred Lawton.

Qualifications:—M.D. Durh., L.R.C.P., M.R.C.S., M.S.A., L.S.A., D.P.H. Conjoint. Salary, 25*l.* per annum, without repayment.

Dr. Lawton is also Medical Officer of Health to Poole Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health: Dr. Lawton appears to be a capable officer.

12. *Inspector of Nuisances:* J. Elford.

No sanitary certificate. Salary, 25*l.* per annum, without repayment. Mr. Elford is also Borough Surveyor and Inspector to the Urban Sanitary Authority.

Character and efficiency of work done by Inspector of Nuisances: Mr. Elford is an intelligent and energetic officer,

but his chief functions seem to be those of Borough Surveyor. He has under him an Assistant Inspector, who apparently performs most of the inspections of shipping. This Assistant, whose name is Hutchings, is an elderly man, who is rather past the work devolving upon him. He has of late been assisted by another and younger man named Phillips, who takes charge of the books, and makes entries therein at the Assistant Inspector's dictation. Mr. Hutchings is about to retire from the service.

13. *Nuisances :—*

1890. No record of inspection.

1891. Medical Officer of Health inspected 52 vessels.

Assistant Inspector of Nuisances inspected 93 vessels (72 British and 21 Foreign).

Five vessels classed as "Dirty." Nuisances abated without orders being served.

1892. Medical Officer of Health inspected 77 vessels.

Assistant Inspector of Nuisances inspected 157 vessels (122 British and 35 Foreign).

Eleven classed as "Dirty." In eight cases nuisances abated without orders being served; in three cases orders served.

14. *Isolation Hospital :—*

The hospital, which serves for both Urban and Port Districts, is situate, in a well isolated position, on what is practically an island, about half a mile distant from the town of Poole. It consists of what must be regarded as a "permanent" and as a "temporarp" part; the latter being erected during the small-pox epidemic of 1887. The permanent building consists of two wards, providing altogether accommodation for about seven patients. The temporary hospital consists of one large ward, together with a kitchen and nurses' room. This ward would provide accommodation for about eight patients, making a total of fifteen. One convalescent scarlet-fever patient was in the hospital at the time of the Inspector's visit. The buildings were at the time of inspection in a fairly good state of repair, and quite ready for the reception of patients, who could either be taken to it by means of an ambulance or be moved thither in a boat. There is, however, no landing stage on the island. The accommodation could be easily extended if necessary. Water is laid on from the town-supply, which is said to be of good quality. W.C.'s, with good flushing arrangements, are situated at the end of each ward. The drains are carried into the sea below low-water mark. There is no laundry, but a movable boiler in the grounds is supposed to serve the purpose of one.

15. *Disinfecting Apparatus :—*

None provided.

16. *Mortuary :—*

None provided.

17. *Regulations under Section* 125, *Public Health Act,* 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act,* 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The position of this station varies according as to whether vessels arrive by day or night. By day the vessels are boarded in the Channel, leading up to Poole Quay. By night they are boarded by the Coastguard at the mouth of Poole Harbour, and they remain in charge of vessel until arrival of the Customs in the morning. The foregoing applies to foreign vessels. Coasters are not as a rule boarded until sometime after arrival. There are several places of debarkation in the harbour. Parkestone Pier, Goathorn, Russel Quay, Poole, and either end of Branksea Island.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Any vessel with Cholera on board, or coming from an infected port, is brought up by the pilots at the mooring station. Instructions to this effect have been given to the pilots by the Collector of Customs in his capacity as Sub-Commissioner of pilotage. All vessels entering between the heads of Poole Harbour are challenged by the Coastguards stationed there. These Coastguards were supplied—at the time of inspection—with a list of "infected ports," and had instructions to order any vessel from these ports to proceed at once to the mooring station, and communication to be made with the Customs and Medical Officer of Health.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Customs communicate at once with the Medical Officer of Health by special messenger, The Coastguards communicate at once with the Medical Officer of Health and Customs.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

The Medical Officer of Health is granted the use of the Customs boat, and there is also a small rowing boat belonging to the Port Sanitary Authority.

e. Mooring Station :—

The mooring station for suspected vessels is in the main channel, and that for infected vessels in the Wareham Channel. Both are well isolated,

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health is in both cases communicated with, and the proceedings in each case, as regards preliminary examination, the same.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

Crews and passengers (if any) mustered on deck and duly examined.

h. Address Book :—

Not obtained.

i. Special Isolation Provision for Cholera :—

Provision in hospital previously described.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Unless there were a large number, the temporary hospital referred to could be used for this purpose.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

There is a van belonging to the Urban Sanitary Authority, which serves the purpose of an ambulance, but there is no boat fitted for use as a water ambulance. Neither had the Authority any hand litter.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Clothes to be destroyed.
(*b.*) Ships to be fumigated with sulphurous acid.
(*c.*) The Authority has no facilities for dealing with goods.

n. Arrangements made as to the Disposal of the Dead :—

It is proposed to inter all corpses in the cemetery.

o. Action as to Water Supply of Vessels from Infected Ports :—

The town of Poole has a good water supply, and the Medical Officer of Health sees to the carrying out of the Board's orders.

p. Action as to Bilges of Vessels from Infected Ports :—

This is duly attended to.

Final Conference with the Poole Port Sanitary Authority was held on May 1st, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of proper means for conveyance by water of the sick.
2. The provision of an efficient disinfecting apparatus.
3. The provision of a proper mortuary.
4. The adoption of the Infectious Disease (Notification) Act, 1889.
5. The steps to be taken beforehand to secure in the event of the extension of cholera in Europe the medical inspection by night as well as by day of all vessels entering the Port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

The Port Sanitary Authority have decided :—

(1.) To purchase a large boat to be fitted up with all proper appliances for the conveyance to the hospital of patients suffering from infectious disease.
(2.) To destroy by burning all infected clothing, bedding, &c., and give compensation for the same instead of providing a disinfecting apparatus.
(3.) To convert a building near to the hospital into a mortuary.
(4.) To adopt the Infectious Disease (Notification) Act, 1889.

[Letter from Town Clerk, dated May 12th, 1893.]

The Infectious Disease (Notification) Act, 1889, adopted by Port Sanitary Authority, July 21st, 1893. [Letter from Town Clerk, dated July 27th, 1893.]

[By an Order of the Local Government Board, dated September 12th, 1893, the limits of jurisdiction of the Port Sanitary Authority were defined to embrace so much of the Port of Poole "as lies to landward of a line drawn from the seaward extremity of the common boundary of the Borough of Poole and the Local Government District of Kinson to the seaward extremity of Standfast Point; together with the waters," &c.]

Weymouth Port Sanitary District.

[Weymouth Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* February 9th and 10th, 1893.

Date of Order *permanently* constituting Port Sanitary District: August 10th, 1877.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "the "Weymouth Port Sanitary Authority," and consists of ten members composed of representatives of the Urban Sanitary Districts of Weymouth and Portland, and the Rural Sanitary District of Weymouth, as follows:—

Urban Sanitary Authority for the Borough of Weymouth and Melcombe Regis, five members.

Urban Sanitary Authority for the Local Government District of Portland, three members.

Rural Sanitary Authority of Weymouth, two members.

This Authority exercises port functions in waters abutting upon the sanitary districts named above.

2. *Limits of Jurisdiction:—*

"So much of the Port of Weymouth as abuts on the several Parishes of Radipole, Melcombe Regis, Weymouth, Wyke Regis, Portland, together with the waters,"* &c.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Weymouth and Melcombe Regis Urban Sanitary District.
Portland Urban Sanitary District.
Weymouth Rural Sanitary District. Parishes:—Radipole and Wyke Regis.

4. *Apportionment of Expenses:—*

The Urban Sanitary Authorities of Weymouth and Portland contribute in proportion to the rateable values of their respective districts, but the Weymouth Rural Sanitary Authority contribute in accordance with the rateable values of the parishes of Radipole and Wyke Regis only. At the last apportionment of expenses the proportion chargeable to each authority represented was as follows:—

Weymouth Urban - - -	191
Portland Urban - - - -	58
Weymouth Rural - - -	51
	300

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* See foot-note, page 89, *ante*.

5. *General Character and Efficiency of Administration :—*

The administration of the Weymouth Port Sanitary Authority may be regarded, generally speaking, as decidedly satisfactory, and it seems to be prepared to carry out the suggestions of its Medical Officer of Health.

6. *Ports from whence Ships arrive.* Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are printed in *italics :—*

Foreign.—*Channel Islands.* Ports in the Baltic: Norway, Sweden, Denmark, North Russia. Ports in the Black Sea, and River Danube. South Russia, and French ports in the English Channel.

Coastwise.—Coasting vessels from all parts, principally from *Northumberland and Durham with coal.* In addition to the above, there are many sailing vessels from various foreign ports putting into the Portland Roads, either wind-bound or for shelter. Steamers also call frequently in the Roads for bunker coal. Many of these during 1892 were from Hamburg and other infected ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Passengers from the Channel Islands daily (Sunday excepted), also fruit and potatoes in their seasons.

General cargoes, timber, and grain from the Baltic ports, grain from ports in the Black Sea and River Danube, potatoes from French ports in the English Channel, coal from the north-eastern home ports. No rags, immigrants, or transmigrants.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.			1890.		1891.		1892.		Number of Ships calling for Bunker Coal in 1892.
			Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.	
Foreign	Steamers	Cargoes	415	80,590	431	87,980	453	103,320	741
		Ballast	6	1,040	4	583	12	245	
	Sailing	Cargoes	31	5,227	23	3,103	30	3,152	
		Ballast	7	407	8	744	26	1,278	
	Fishing		—	—	—	—	—	—	
Total Foreign			459	87,264	466	92,410	521	107,995	
Coastwise.	Steamers	Cargoes	78	25,080	107	31,521	133	38,973	Nil.
		Ballast	132	14,042	123	11,367	144	17,772	
	Sailing	Cargoes	222	20,816	191	18,301	182	17,012	
		Ballast	184	10,997	172	10,813	145	9,149	
	Fishing		—	—	—	—	—	—	
Total Coastwise			616	70,935	593	72,002	604	82,906	

9. *Inland Water Communication :—*

None.

10. *Lines of Railway conveying Goods from Port :—*

Great Western Railway.
London and South-Western Railway.

11. *Medical Officer of Health :* Reginald Palgrave Simpson.

Qualifications:—M.D., M.R.C.S., L.S.A. Salary, 50*l.* per annum, with repayment.

Dr. Simpson does not hold any other public offices.

Character and efficiency of work done by Medical Officer of Health :—

This Medical Officer of Health is a decidedly energetic officer, and he errs, if at all, on the side of excess of zeal.

12. *Inspector of Nuisances :* William Butt.

No sanitary certificate. Salary, 25*l.* per annum, with repayment. Mr. Butt is one of Lloyd's agents.

Character and efficiency of work done by Inspector of Nuisances :—

Mr. Butt is apparently an efficient officer. He is, as stated above, one of Lloyd's agents, and in his capacity as such is brought into contact with almost every vessel coming into Weymouth. He has not hitherto, however, paid sufficient attention to water storage or to the condition of bilges. He keeps his book well, and submits it at the monthly meeting of the Sanitary Authority.

13. *Nuisances :—*

	Arrivals.		Inspections.	
	Foreign.	Coastwise.	Foreign.	Coastwise.
1890 - - -	459	616	315	50
1891 - - -	466	593	410	48
1892 - - -	521	604	450	60

In the opinion of the officers of the Port Authority there has been marked improvement in the condition of the vessels frequenting this port, as a result of the inspections to which they have been subjected. It is stated that no difficulty has ever been experienced in getting the recommendations or orders duly carried out.

14. *Isolation Hospital :—*

The Port Sanitary Authority possesses a permanent isolation hospital, which has been fully described in the Board's report "On the Use and Influence of Hospitals for Infectious Diseases," issued in 1882, pp. 282 to 285. This hospital was erected in 1880, and is situate about midway between Weymouth and the Isle of Portland on a sloping site close to the sea and the narrow neck of sand which connects the Isle of Portland with the mainland.

The hospital contains ample accommodation (24 beds) for any ordinary demands which are likely to be made upon it, and is kept in a good state of repair and preparedness. Patients are brought from the ships in the boats belonging to the vessels to a small landing-stage connected with the hospital. They

are then removed to the hospital on a small hand-litter. There is a four-wheeled ambulance at the hospital for the use of patients other than those removed from ships. The accommodation could be extended if necessary.

The water-supply is obtained from the mains of the Weymouth Waterworks. The slop-drainage is carried into the sea below low-water mark. Excrement disposal by earth-closets. There is sufficient and efficient laundry accommodation. The Medical Officer of Health is in telephonic communication with the hospital.

15. *Disinfecting Apparatus:—*

Scott's hot-air disinfecting apparatus is in use. It is said to act efficiently at a temperature of 230° to 250° F. without scorching the exposed articles. This apparatus would be of no avail for the purpose of disinfecting goods, &c. A store was at the date of inspection about to be erected in the hospital grounds for the purpose of cremating dejecta.

16. *Mortuary:—*

There is a well-built and well-arranged mortuary in the hospital grounds.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—
None made.

18. *Infectious Disease (Notification) Act*, 1889:—
This Act has been in force in the Weymouth Port Sanitary District since January 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

The Boarding Station for Portland and for all vessels from the west is in Portland Roads. That for vessels coming into Weymouth from the east is at the mouth of Weymouth Harbour. There are two places of debarkation in the Port of Weymouth, one at Portland the other at Weymouth. Coasters are not boarded by the Customs as a routine practice. All foreign vessels arriving by day are boarded by the Customs as soon as possible, but at night, vessels, unless infected, are not boarded at once. A full Customs' Staff is kept up by day, but not at night. To do this, it is said, would entail an extra expenditure of 8*l.* or 9*l.* weekly.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

Any foreign vessel which was found or suspected to be infected would be detained by the Customs, and the Port Medical Officer of Health immediately sent for. If at night the Coastguard were to ascertain that a foreign vessel was infected they would immediately notify the fact to the Customs. The Channel Islands Packets are challenged by the Customs' officer as they come alongside the landing stage, but the captains of these vessels have been instructed by the Port Sanitary Authority and by the Customs to hoist a yellow flag when approaching port if they have any sickness whatever on board. No special instructions other shan those contained in

the Admiralty "Quarantine Regulations" have apparently been given to pilots. Under these regulations it would presumably be the duty of the pilots to inform the master of the cholera regulations.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—

The Customs' officials communicate with the Medical Officer of Health by means of a special messenger.

The relations which exist between the Port Sanitary officials and the Customs' officers appear to be decidedly cordial.

d. Means provided or Facilities given for Conveyance of Medical Officer of Health to Ships:—

By the courtesy of the Customs' officer the Customs' steam launch is placed at the disposal of the Port Medical Officer of Health.

e. Mooring Station:—

The Mooring Station is situate in the old quarantine ground, and is in a well isolated position. The assigned limits of the mooring station are as follows:—It is three cables square, and lies to the westward of the north end of the breakwater, the limits being Breakwater Lighthouse E.S.E. (magnetic), three cables from this point the station extends S.S.W. (magnetic) three cables, and again E.S.E. (magnetic) to the breakwater. These are the outside limits of the mooring station, as has been approved by the Queen's Harbour Master.

f. Inspection of Vessels ("infected" or from "infected port"):—

This is diligently carried out by the Medical Officer of Health, who inspects all vessels from "infected ports," unless they have been 10 days out at sea.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

All passengers and crew mustered and examined except in the cases of vessels from infected ports which have been more than 10 days out at sea.

h. Address Book:—

In preparation at the time of inspection.

i. Special Isolation Provision for Cholera:—

There has never yet been any pressure upon the accommodation of the Port Hospital, in which there are 24 beds, and an observation ward. The hospital during ordinary times provides accommodation for the infectious sick of the Weymouth Urban and Rural Sanitary Districts, but during periods of threatened cholera invasion, *e.g.*, the autumn of 1892, notice is given that the hospital must be kept exclusively for the use of the Port Sanitary Authority.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

There is as a rule ample room for isolation purposes in the Port Hospital, and one small ward is reserved solely for purposes of observation.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

By means of ships' boats from infected vessel to landing stage, and from thence to hospital on a hand litter.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods :—*

(*a.*) Clothes are either disinfected in Scott's apparatus, or else destroyed.

(*b.*) The Medical Officer of Health proposes to disinfect the ship by fumigation with carbon di-sulphide.

(*c.*) There is no proper provision at this port for the disinfection of bulky goods.

n. Arrangements made for the Disposal of the Dead :—

It is proposed under all circumstances to take the body out to sea, after having shotted it and surrounded the body and shot with strong wire netting so as to prevent their separation.

o. Action as to Water Supply of Vessels from Infected Ports :—

Drinking water pumped out, and fresh supplies provided from the water tanks in the Portland Roads.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges pumped out in the Portland Roads and duly disinfected.

Final Conference with the Weymouth Port Sanitary Authority was held on June 5th, 1893, when the only formal recommendation made had regard to the steps to be taken beforehand to secure, in the event of any marked extension of cholera in Europe, the medical inspection by night as well as by day of all vessels entering the port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

All vessels entering Weymouth Harbour from abroad have been inspected by the Medical Officer of Health. [Annual Reports of the Port Medical Officer of Health for 1893 and 1894.]

SECTION XI.

Customs Ports of Exeter, Teignmouth, and Dartmouth.

Illustrated in Map XI.

LIMITS OF CUSTOMS PORTS.

(36.) *Exeter.*

The limits of the said Port of Exeter shall commence at the west bank of the River Char, in the County of Dorset (being the western limit of the Port of Weymouth), and shall extend thence in a westerly and southerly direction along the coast of Dorset and Devon to Langstone Point, in the County of Devon, being the north-eastern limit of the Port of Teignmouth, and as far up the River Exe as the Bridge of the City of Exeter, and shall include the Exeter Canal from the seaward entrance thereof at the place called Turf, to its junction with the River Exe at Exeter, together with the Basin at the north-west end of the said Canal, and*

Date of Treasury Warrant, 11th day of January 1888.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Exeter, the Urban Riparian Sanitary Districts of Lyme Regis, Seaton, Sidmouth, Budleigh-and-Salterton, and Dawlish (part of), and certain Riparian Parishes of the Rural Sanitary Districts of Axminster, Honiton, and St. Thomas. The shipping trade from foreign is practically confined to the Exeter Port Sanitary District, as to which see report, page 382.

(37.) *Teignmouth.*

The limits of the said Port shall commence at Langstone Point, in the County of Devon, being the western limit of the Port of Exeter, and shall extend from thence in a southerly direction to a point of land in the said County called Galmpton Point, at the south end of Broad Sands, in the Bay of Torbay, being the eastern extremity of the Port of Dartmouth, and shall*

Date of Treasury Warrant, 23rd day of December 1852.

Within the limits of this Customs Port are comprised the Port Sanitary District of Teignmouth, the Urban Riparian Sanitary Districts of Dawlish (part of), St. Mary Church, Torquay, and Paignton, and certain Riparian Parishes of the Rural Sanitary Districts of Newton Abbot and Totnes. The shipping trade is practically confined to the Teignmouth Port Sanitary District and the Torquay Urban Riparian District, reports as to each of which will be found at pages 388 and 394 respectively.

(38.) *Dartmouth.*

The limits of the said Port shall commence at a point of land in the County of Devon called Galmpton Point, being the western limit of the Port of Teignmouth, and shall extend from thence to a point of land called Berry Head; from thence, in a southerly direction, to a rock near the entrance of the River Dart, called Mew Stone; from thence to a point

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* See footnote, page 78, *ante*.

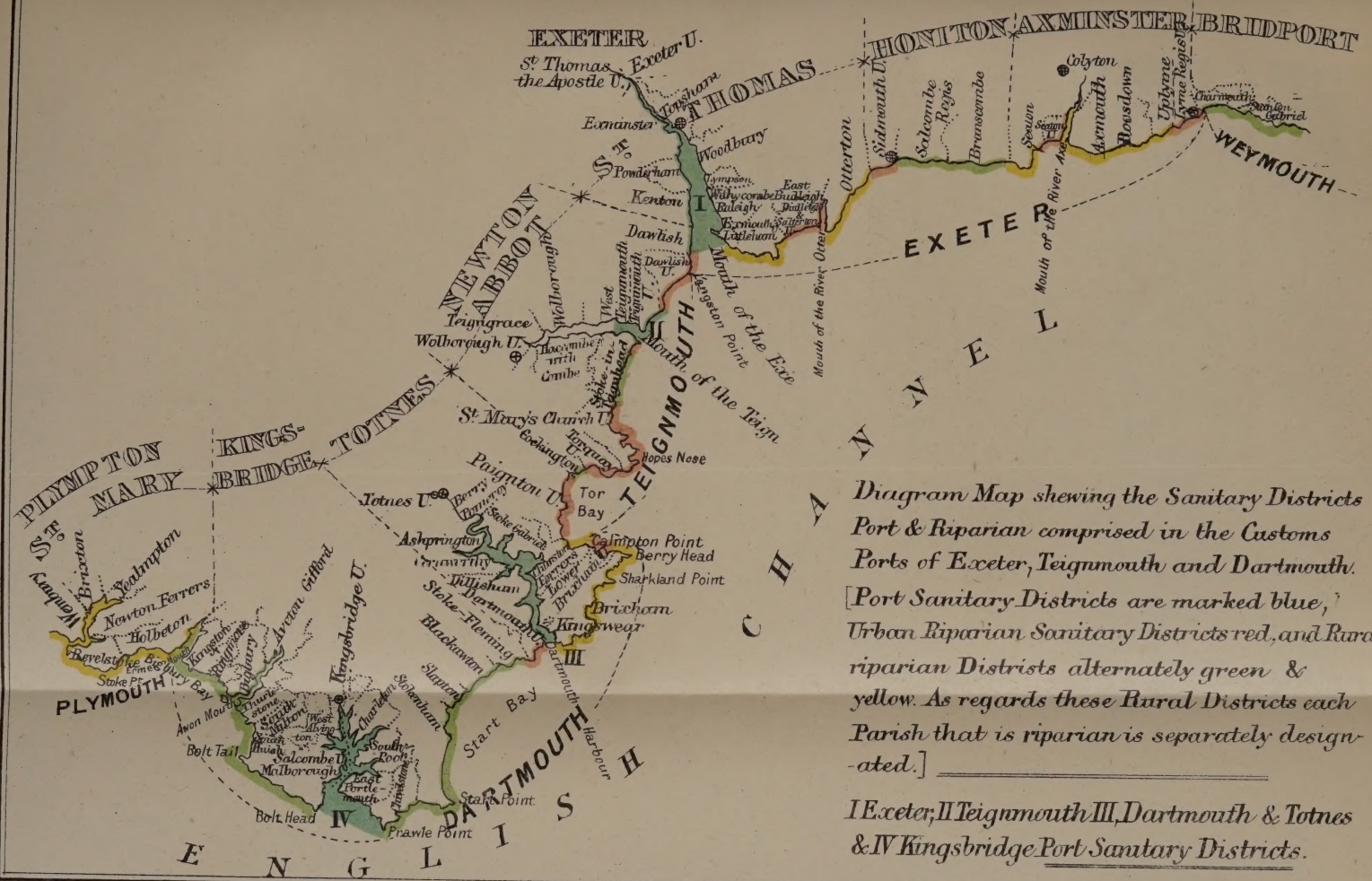

Diagram Map shewing the Sanitary Districts Port & Riparian comprised in the Customs Ports of Exeter, Teignmouth and Dartmouth.

[Port Sanitary Districts are marked blue, Urban Riparian Sanitary Districts red, and Rural riparian Distrists alternately green & yellow. As regards these Rural Districts each Parish that is riparian is separately designated.]

I Exeter, II Teignmouth III, Dartmouth & Totnes & IV Kingsbridge Port Sanitary Districts.

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of land called Start Point; from thence, in a westerly direction, to Bolt Head, westward of Salcombe, and from thence in a westerly direction to the east side of Erme Mouth, in Bigbury Bay, being the eastern limit of the Port of Plymouth, and shall*

Date of Treasury Warrant, 23rd day of December 1852.

Within the boundaries of this Customs Port are comprised the Port Sanitary Districts of Dartmouth-and-Totnes, and of Kingsbridge-and-Salcombe, the Urban Riparian Sanitary District of Lower Brixham and certain Riparian Parishes of the Rural Sanitary Districts of Totnes and Kingsbridge. The shipping trade is practically confined to the two Port Sanitary Districts, reports with regard to which will be found at pages 396 and 402 respectively.

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* See footnote, page 78, *ante*.

Exeter Port Sanitary District.

[Exeter Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* February 21st and 22nd, 1893.

Date of Order *permanently* constituting Port Sanitary District: June 9th, 1888.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Exeter Port Sanitary Authority" and consist of eleven representative members as follows:—

Urban Sanitary Authority for the city and county of Exeter, five members.

Urban Sanitary Authority for the Local Government Board District of Exmouth, two members.

Urban Sanitary Authority for the Local Government Board District of St. Thomas the Apostle, one member.

Rural Sanitary Authority for the Rural Sanitary District of St. Thomas, three members.

It exercises port functions in waters abutting upon the above-named sanitary districts and upon the Newton Abbott Rural Sanitary District.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Exeter as lies between the Bridge "of the city of Exeter and a straight line drawn due east and "west from shore to shore of the River Exe and through "the Checkstone, and includes the Exeter Canal from the "seaward entrance thereof to its junction with the River Exe at "Exeter; together with the basin at the north-western end "of the said Canal; and the waters," * &c. These limits are considered satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Exeter Urban Sanitary District:—The whole.

Exmouth Urban Sanitary District:—The whole.

St. Thomas the Apostle Urban Sanitary District:—The whole.

St. Thomas Rural Sanitary District. Parishes:—Withycombe Raleigh, Lympston, Woodbury, Topsham, Alphington, Exminster, Powderham and Kenton.

Newton Abbot Rural Sanitary District. Parish:—Dawlish (part of).

4. *Apportionment of Expenses:—*

The constituent authorities contribute towards the expenses in the following proportions:—

City and county of Exeter Urban Sanitary Authority, five elevenths.

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* See footnote, page 89, *ante*.

Exmouth Urban Sanitary Authority, two elevenths.
St. Thomas the Apostle Urban Sanitary Authority, one eleventh.
St. Thomas Rural Sanitary Authority, three elevenths.

5. *General Character and Efficiency of Administration* :—

The character of this Sanitary Authority's administration appears to have improved recently.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign.—Ports of *Norway* and *Sweden*. St. Petersburg, Odessa, Cadiz, Oporto, Cronstadt. Hamburg and several ports on the north coast of France.

Coastwise.—*Sunderland*, *Shields* and Liverpool.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, trans-migrants, &c.) :—

Imports. Timber, petroleum, salt codfish, manure (phosphates), oats, sugar, and glass. Pyrites, wine, brandy, currants, zinc, and iron ore.

A cargo of onions arrives from France about once yearly, and the crew stay in Exeter and the neighbourhood until the sale is completed.

Received Coastwise. Coal, limestone, cement, grain, and oilcake.

Shipped Coastwise. British timber, petroleum, and pipeclay.

Rags in 1891–92. One cargo of rags arrived each year.

Pleasure steamers run frequently during the summer to other places on the South Coast.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	6	1,708	8	3,099	6	2,125
	Sailing	74	13,745	83	13,520	91	17,512
	Fishing	—	—	—	—	—	—
Total Foreign		80	15,453	91	16,619	97	19,637
Coastwise	Steamers	140	8,650	162	18,405	162	16,373
	Sailing	645	39,123	671	39,308	712	43,406
	Fishing	—	—	—	—	—	—
Total Coastwise		785	47,773	833	57,713	874	59,779

9. *Inland Water Communication* :—

There is no communication above Exeter. About 50 per cent. of the ships which enter the waters of the port come up to Exeter from Exmouth by means of the Exeter Canal, which is navigable by vessels drawing 12 feet of water, 118 feet in length, and 26 feet beam. The canal is nearly 6 miles in length, and it is entered by means of lock gates at Turf, about six miles below Exeter. It is under the jurisdiction of the Port Sanitary Authority. The remainder of the vessels arriving in the port discharge their cargoes for the most part at Exmouth, but some few at Topsham.

10. *Lines of Railway conveying Goods from Port:—*
Great Western and London and South-Western Railways.

11. *Medical Officer of Health:* Arthur Wightman Kempe.

Qualifications:—M.D. Salary, 20*l.* per annum, without repayment. Allowed 10*s.* 6*d.* for special visits and 1*l.* 1*s.* by night. Dr. Kempe also holds the appointments of Medical Officer of Health for Exmouth and Budleigh Salterton Urban Sanitary Districts.

Character and efficiency of work done by Medical Officer of Health:—This officer lives in Exeter and in the event of any ship arriving at Exmouth being either infected or having come from an infected port, he proceeds at once to Exmouth to examine the crew and passengers. He makes periodical inspections of the vessels in this port, and he has taken an active part in endeavouring to procure hospital accommodation for the district. During 1892 the Sanitary Authority appointed an Assistant Medical Officer of Health to reside in Exmouth during the prevalence of cholera abroad.

12. *Inspector of Nuisances:* S. E. Bowden.

No sanitary certificate. Salary, 15*l.* per annum, without repayment. Also acts as harbour master at Exmouth.

Character and efficiency of work done by Inspector of Nuisances:—

This Inspector, by virtue of his post as harbour master is placed in an exceptionally favourable position for exercising supervision over the shipping at Exmouth, and this he appears to do. He naturally has a good knowledge of the construction of ships.

13. *Nuisances:—*

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	3	—	Instructions obeyed without formal order.
		Sailing	48	13	
		Fishing	—	—	
	Total Foreign		51	13	—
	Coastwise	Steamers	25	4	—
		Sailing	97	12	—
		Fishing	—	—	—
	Total Coastwise		122	16	—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	4	—	Instructions obeyed without formal notice.
		Sailing	36	13	
		Fishing	—	—	
	Total Foreign		40	13	—
	Coast-wise.	Steamers	19	3	—
		Sailing	95	8	—
		Fishing	—	—	—
	Total Coastwise		114	11	—
1892	Foreign	Steamers	3	—	—
		Sailing	59	29	29
		Fishing	—	—	—
	Total Foreign		62	29	29
	Coast-wise.	Steamers	15	—	—
		Sailing	105	3	3
		Fishing	—	—	—
	Total Coastwise		120	3	3

14. *Isolation Hospital:*—

None provided by Port Sanitary Authority.
On one occasion use was made of the Exeter Sanatorium some 12 miles from Exmouth, but this provision obviously is altogether out of the question for cases of cholera.

15. *Disinfecting Apparatus:*—

None provided.

16. *Mortuary:*—

None.

17. *Regulations under Section* 125 *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Adopted October 14th 1892.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

In the Bight off Exmouth.
There are six places of debarkation in the district—Exmouth, Starcross, Lympton, Topsham, Turf, and Exeter.

Coasting vessels are not as a rule boarded by Customs immediately on arrival but the Inspector of Nuisances is stated to board every vessel.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

The Customs detain vessels either by night or day, and if necessary, at once report to Inspector, who communicates with the Medical Officer of Health.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—

The Inspector of Nuisances (Exmouth Harbour Master) boards all vessels at Exmouth. If he received information from the Customs, or ascertained himself, that a ship had arrived from an infected port, or was herself infected, he would at once wire to the Medical Officer of Health at Exeter, who would proceed to Exmouth to inspect vessel and crew.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to ships:—

There is no boat belonging to the Port Sanitary Authority. Either the Customs boat is used, or one is hired when necessary. The boarding is said to be sometimes dangerous owing to heavy seas running.

e. Mooring Station:—

This is situated in the upper part of the Bight, as far removed from vessels as possible.

f. Inspection of Vessels ("infected" or from "infected port"):—

During the prevalence of cholera in 1892 every foreign vessel was boarded and inspected by the Assistant Medical Officer of Health who was appointed temporarily to reside in Exmouth.

g. Examination of Persons on Vessels ("infected" or from "infected port):—

All persons under either circumstances are examined.

h. Address Book:—

Address book provided.

i. Special Isolation Provision for Cholera:—

None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

None.

l. Means provided for Transfer of infected Persons from Ship to Hospital:—

None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) Clothes would be burnt.
(*b.*) Ships fumigated with sulphurous acid.
(*c.*) No arrangement for the disinfection of goods.

n. Arrangements made as to the Disposal of the Dead:—

It is proposed to bury corpses at sea, with the most stringent precautions as regards shotting, &c.

o. Action as to Water supply of Vessels from Infected Ports:—

Vessels are ordered to empty their casks before proceeding up river, and are supplied with fresh water from Exmouth.

p. Action as to Bilges of Vessels from Infected Ports:—

Under these circumstances bilges are pumped out.

Final Conference with the Exeter Port Sanitary Authority was held on May 26th, 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of sufficient and suitable hospital accommodation and of proper ambulances.
2. The provision of efficient means for the disinfection of infected articles.
3. The provision of suitable mortuary accommodation.
4. The steps to be taken beforehand to secure, in case of necessity, the medical inspection of all vessels, whether from foreign or coastwise, entering the port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Adequate arrangements made to secure the medical inspection of all vessels from infected ports, whether entering from foreign or coastwise. [Letter from Port Sanitary Authority, dated September 14th, 1893.]

The Port Sanitary Authority made several efforts to acquire a site for a hospital, but were unsuccessful. [Letter from Port Sanitary Authority, dated January 15th, 1894.]

Vessels from "infected" or "suspected ports" inspected during August and September 1894. [Annual Report of the Port Medical Officer of Health for 1894.]

Teignmouth Port Sanitary District.

[Teignmouth Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* February 23rd, 1893.

Date of Order *permanently* constituting Port Sanitary District: August 10th, 1877.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is "The Teignmouth Local Board." It exercises Port functions in waters abutting upon the Newton Abbot Rural Sanitary District, as well as upon the Teignmouth Urban Sanitary District.

2. *Limits of Jurisdiction :—*

"So much of the said Port as lies between "a point called "The Ness,' in the Parish of Stokeinteignhead, and the "boundary between the Parishes of East Teignmouth, and "Dawlish, including so much of the estuary of the River "Teign as lies between the sea and the Bridge connecting "Teignmouth with Shaldon; together with the waters,"* &c.

These limits are considered to be quite satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Teignmouth Urban :—The whole.

Newton Abbot Rural. Parishes :—Bishopsteignton, Stoke-in-Teignhead.

4. *Apportionment of Expenses :—*

The expenses of Port Sanitary Administration are wholly borne by the Teignmouth Local Board, acting as Port Sanitary Authority.

5. *General Character and Efficiency of Administration :—*

The Local Board seems somewhat indifferent to Port matters, but the officers are apparently competent.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are indicated by *italics* :—

FOREIGN.—*Norwegian, Swedish, Danish,* and French Ports.
COASTWISE.—North-eastern ports.

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* See footnote, page 89, *ante.*

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports.—Wood pulp from Scandinavia. Coal from North-eastern ports.

Exports.—China clay only. No passenger traffic.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	—	—	—	—	5	1,167
	Sailing	27	4,047	23	3,409	34	4,584
	Fishing	—	—	—	—	—	—
Total Foreign		27	4,047	23	3,409	39	5,751
Coastwise	Steamers	—	—	3	387	3	540
	Sailing	343	37,718	356	38,547	380	39,063
	Fishing	—	—	—	—	—	—
Total Coastwise		343	37,718	359	38,934	383	39,603

9. *Inland Water Communication :—*

The River Teign is navigable for small boats as far as Newton Abbot. This river runs for the greater part of its course through the Newton Abbot Rural Sanitary District, but all boats passing up must traverse the waters of the Teignmouth Port Sanitary District.

10. *Lines of Railway Conveying Goods from Port :—*

The Great Western Railway only.

11. *Medical Officer of Health :* F. Cecil H. Piggott.

Qualifications :—M.D., B.C., B.A. Cantab. Salary, 20*l.* per annum, with repayment. Dr. Piggott also acts as Medical Officer of Health for the Teignmouth Urban District.

Character and efficiency of work done by Medical Officer of Health :—

Dr. Piggott is a capable and intelligent officer, and would probably deal effectually with any cases of infectious disease brought within the Port.

12. *Inspector of Nuisances :* John Drake.

Qualifications :—Certificate of Sanitary Institute. Salary, 10*l.* per annum, with repayment. Mr. Drake also acts as Inspector of Nuisances to Urban District.

Character and efficiency of work done by Inspector of Nuisances :—

A careful, energetic officer.

13. *Nuisances :—*

About one-third of the vessels arriving at this Port appear to be inspected.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	5	1	1
		Fishing	—	—	—
		Total Foreign	5	1	1
	Coastwise.	Steamers	—	—	—
		Sailing	105	28	28
		Fishing	—	—	—
		Total Coastwise	105	28	28
1891	Foreign	Steamers	—	—	—
		Sailing	15	1	1
		Fishing	—	—	—
		Total Foreign	15	1	1
	Coastwise.	Steamers	—	—	—
		Sailing	127	7	7
		Fishing	—	—	—
		Total Coastwise	127	7	7
1892	Foreign	Steamers	1	—	—
		Sailing	12	1	1
		Fishing	—	—	—
		Total Foreign	13	1	1
	Coastwise.	Steamers	—	—	—
		Sailing	123	7	7
		Fishing	—	—	—
		Total Coastwise	123	7	7

14. *Isolation Hospital:—*

Neither the Port Sanitary Authority nor Urban Sanitary Authority possess any proper hospital. In 1881 some rooms were erected over part of the Gasworks for the foreman's use, and in 1889 these were acquired by the Urban Sanitary Authority for isolation purposes. The building in question is situated on the side of the River Teign just above Shaldon Bridge, and is separated from the road by the Great Western Railway. It is approached either by means of a bridge over the railway or by some dilapidated steps leading up from the shore. It would provide very imperfect accommodation for five patients. Sufferers could be conveyed thereto either by river in a boat or by road on an Ashford litter. There are no facilities whatever for extension. Water supply laid on from the town. Drainage into river. Excrement would have to pass into the drains after (?) disinfection. There is no proper laundry provision.

15. *Disinfecting Apparatus :—*

Neither the Port Sanitary Authority nor Urban Sanitary Authority possess any disinfecting apparatus whatever.

16. *Mortuary :—*

None belonging to Port Sanitary Authority. The Urban Sanitary Authority possesses a mortuary in the town, but it is not of a satisfactory character.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

This Act was adopted January 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

At the "Point." There are three places of debarkation in the district, but all vessels must pass the Boarding Station at the mouth of the river.

Foreign vessels are all boarded at once, and, as a rule, coasters also.

b. Arrangements to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Instructions have been given to the several pilots to detain for inspection outside the harbour all vessels with sickness on board, and the Customs at once report to Medical Officer of Health the arrival of any vessel from an infected port. Infected vessels are to be anchored for inspection in Shaldon Pool.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Customs' officials communicate direct with Medical Officer of Health.

There seems to be complete harmony between the various officials at this port.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

There is no boat belonging to the Port Sanitary Authority, but there is apparently no difficulty in hiring one.

e. Mooring Station :—

The mooring station for infected vessels is at the two buoys nearest Shaldon Bridge. It is fairly well isolated and but a short distance from the hospital.

f. Inspection of Vessels ("infected" or from "infected port") :—

Vessels under both these circumstances are detained and inspected. The Customs' officer would suspect those from infected ports.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

The inspection of all on board would be carried out in each case.

h. Address Book:—

Provided.

i. Special Isolation Provision for Cholera:—

There is no special isolation provision for Cholera, but it is very improbable that the rooms alluded to above would be occupied at the time of need.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

No arrangements have been made for suspected cases. They would either have to be detained on board or transferred to the "hospital."

l. Means provided for transfer of infected Persons from Ship to Hospital:—

It is but a short distance from the appointed mooring station to the "hospital." The patient would be removed by boat to the hospital steps.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) *Clothes* would be boiled or destroyed.
(*b.*) *Ships* fumigated with sulphurous acid, and bulkheads, &c. washed.
(*c.*) *Goods.*—There are no arrangements for their proper treatment.

n. Arrangements made as to the Disposal of the Dead:—

It is proposed to take a corpse well out to sea, after securing a sufficient weight thereto by means of wire netting.

o. Action as to Water Supply of Vessels from Infected Ports:—

Vessels have been ordered to discharge their water before entering dock, and obtain a fresh supply from the town.

p. Action as to Bilges of Vessels from Infected Ports:—

The Medical Officer of Health takes every precaution as to pumping out bilge water when necessary.

Final Conference with the Teignmouth Port Sanitary Authority on May 4th, 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of sufficient and suitable hospital accommodation.
2. The provision of sufficient and proper mortuary accommodation.
3. The provision of an efficient disinfecting apparatus.
4. The provision of suitable means for the conveyance of the sick by water.
5. The steps to be taken beforehand to secure, in case of necessity, the medical inspection of all vessels entering the port.

Action taken by the Port Sanitary Authority since Inspection.

In a letter from the Port Sanitary Authority, dated June 2nd, 1893, it was stated :—

1. That the Port Sanitary Authority could not at present see its way to provide isolation accommodation other than that now existing, but that it had the matter constantly under its consideration.
2. That inquiries were being made in regard to a site for a mortuary.
3. That as regards a disinfecting apparatus it proposed to defer the purchase of one until proper isolation accommodation had been obtained.
4. That the Authority possessed a boat which in its opinion would serve as an ambulance.
5. That arrangements would be made with the Medical Officer of Health as regards the medical inspection of vessels should the necessity arise.

The Medical Officer of Health states in his annual report for 1893 that in September 1893 the importation by sea of a case of diphtheria furnished a valuable lesson of the state of unpreparedness of the Sanitary Authority to deal with any cholera which might have been introduced. Owing to the advice of the Medical Officer of Health in respect to maintaining the hospital is readiness having been disregarded, an interval of 24 hours elapsed before the patient could be removed from the vessel. After this object lesson the Sanitary Authority engaged a trained nurse to reside in the hospital, and placed the administration of the building under the Medical Officer of Health. Unfortunately the Sanitary Authority has not yet seen its way to provide suitable isolation accommodation, and the prospective utility of the present building, as regards the Port, is considerably curtailed by the possibility of its being occupied by cases of other infectious disease from the town of Teignmouth, when it is required for the isolation of cholera.

From the annual report of the Medical Officer of Health for 1894 it appears that 154 vessels were inspected by the Port Officers in that year.

TORQUAY URBAN RIPARIAN SANITARY DISTRICT.

[Teignmouth Customs Port (part of)].

Inspector: Dr. S. M. Copeman. *Date of Inspection:* November 29th, 1893.

This Riparian District is under the jurisdiction of the Town Council for the Borough of Torquay. The coastline extends from the common boundary of the Urban Sanitary Districts of St. Mary Church and Torquay on the north-east to the common boundary of the Urban District of Torquay and the parish of Cocklington on the west.

Shipping Trade :—

FOREIGN.—An occasional vessel from French or Baltic ports.

COASTWISE.—London, Bristol.

Imports.—Timber, slates, and general cargoes.

Exports.—Nil.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	1	405	1	426	1	623
	Sailing	4	599	8	1,088	6	1,285
	Fishing*	—	—	—	—	—	—
Total Foreign		5	1,004	9	1,514	7	1,908
Coastwise	Steamers	355	69,718	346	82,959	374	92,502
	Sailing	—	—	—	—	—	—
	Fishing	—	—	—	—	—	—
Total Coastwise		355	69,718	346	82,959	374	92,502

* 1890.—Arrivals from Foreign, 90 Fishing Boats.
1891 " " " 80 " "
1892 " " " 85 " "
Tonnage unknown.
A few yachts put in occasionally from both French and British Ports.

Goods are conveyed from the Riparian District by the Great Western Railway.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (Paul Quick Karkeek, M.R.C.S.) has carried out his riparian duties in a very satisfactory manner. The Urban Inspector of Nuisances (Charles MacMahon) had not, prior to the inspection, carried out any inspection of vessels under the Public Health Acts. The Urban Sanitary Authority possesses isolation accommodation for 20 beds. The hospital was erected in 1883 and is situate at a distance of about two miles from the landing stage. An ambulance has been provided. An iron closet at the isolation hospital used both as a hot air chamber and as sulphur fumigation chamber. The Sanitary Authority have arranged for the use of the mortuary at the Torbay Hospital if necessary.

The notification of infectious disease is enforced under the Torquay Harbour and District Act, 1886. No regulations have been made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—Within the harbour.

There is a Customs Officer stationed at Torquay, but he never boards a vessel outside the harbour.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—The Harbour Master signals to any vessel coming from foreign to remain outside the harbour until she has been visited by the Medical Officer of Health.

There are no pilots.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—The Harbour Master sends a special messenger for the Medical Officer of Health as soon as he becomes aware that a vessel coming foreign is desirous of entering the harbour.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—There is an open boat belonging to the Corporation.

The Harbour Master can, on occasion, arrange for the use of a steam launch if it is considered necessary.

e. Mooring Station.—About a mile from the harbour mouth, its position being marked by a buoy.

It appears satisfactory, as there is good anchorage, and a vessel could ride here in safety at all times, except perhaps during the prevalence of strong south-east winds.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health visited all vessels coming foreign during 1892 and 1893, before they were allowed to enter the harbour.

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health has usually not actually boarded vessels unless the master has stated that he had any sick persons on board. Crews are required to put in an appearance on deck.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—A small isolation ward has been kept vacant at the isolation hospital, for use in case of emergency.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—No special arrangements made.

l. Means provided for Transfer of infected Persons from Ship to Hospital.—None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods.—None.

n. Arrangements made as to the Disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—No action taken.

p. Action as to Bilges of Vessels from Infected Ports.—No action taken.

Final Conference with the Torquay Urban Riparian Sanitary Authority was held on December 1st, 1893, when the duties and obligations devolving upon the Sanitary Authority under the Cholera Order and Regulations of the Local Government Board were fully explained, and the necessity for their being fully carried out urged on the authority.

ACTION TAKEN BY THE URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

No further action has apparently been taken by this Authority.

Dartmouth and Totnes Port Sanitary District.

[Dartmouth Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* February 28th, 1893.

Date of Order *permanently* constituting Port Sanitary District: March 16th, 1888.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Dartmouth and Totnes Port Sanitary Authority," and consists of ten representive members as follows:—

Borough of Clifton Dartmouth Hardness, five members.
Borough of Totnes, one member.
Rural Sanitary Authority of Totnes, four members.

It exercises Port functions in waters abutting upon the Sanitary Districts named above.

2. *Limits of Jurisdiction:—*

So much of the said Port of Dartmouth as lies between Totnes Bridge and a line drawn across the entrance to Dartmouth Harbour from Blackstone Point to Outer Froward Point, together with the waters,* &c., &c.

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Urban Sanitary District of Dartmouth:—(whole).
Urban Sanitary District of Totnes:—(whole).
Rural Sanitary District of Totnes. Parishes:—Brixham, Ashprington, Churston Ferrers, Cornworthy, Stoke Gabriel, Dittisham, and Berry Pomeroy.

4. *Apportionment of Expenses:—*

The constituent Authorities contribute towards the expenses in the following proportions:—

Urban Sanitary Authority of Borough of Dartmouth, five tenths.
Urban Sanitary Authority of Borough of Totnes, one tenth.
Rural Sanitary Authority of Rural Sanitary District of Totnes, four tenths.

5. *General Character and Efficiency of Administration:—*

Bad. There is practically nothing done as regards inspection, except such as was necessitated in 1892 during the prevalence of cholera, or which takes place if the existence of infectious disease is reported by the Customs.

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* See footnote, page 89, *ante*.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

FOREIGN. There is said to be no foreign trade, but a large number of steamers call in here for bunker coal, and many sailing vessels put in under stress of weather. The Ports from which ships arrive are as follows:—Black Sea, Sea of Azov, Mediterranean, Baltic, Hamburg, Antwerp, Norway, and Sweden.

COASTWISE. Chiefly North-East Ports with coal for hulks.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports. Coal for coaling hulks.

Exports. None.

No rags, immigrants, or transmigrants.

Up to the middle of 1891 several vessels used to call for the purpose of landing and shipping passengers, but this has now been discontinued, and only the mails for the Falkland Isles and West Indies are shipped here.

Dartmouth is a great yachting resort, and is becoming one of the most important coaling stations on the south coast.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	932	719,775	794	665,599	748	630,224
Foreign { Sailing	85	10,423	68	10,597	74	7,133
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	1,017	730,198	862	676,196	822	637,357
Coastwise { Steamers	251	77,468	234	75,913	256	77,077
Coastwise { Sailing	161	10,947	164	11,046	158	9,832
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	412	88,415	398	86,959	414	86,909

FOREIGN STEAMERS.—The number and tonnage as shown under this heading for 1890 and part of 1891, consisted of steamships which called for bunker coals and to land and ship passengers. In the year 1892 the number was made up of steamships for bunkers only.

FOREIGN SAILING.—The figures under this heading are chiefly vessels which put in windbound or through stress of weather.

FOREIGN FISHING. Foreign fishing vessels and British vessels from distant fishing grounds do not enter the port of Dartmouth.

COASTWISE STEAMERS.—This is the actual number of steamers which arrived for the purpose of discharging cargo in the port.

COASTWISE SAILING.— Do. Do.

COASTWISE FISHING.—About (say) 50 fishing vessels a year put into this harbour from the Start Bay fishing ground through stress of weather.

9. *Inland Water Communication:—*
There is inland communication up the River Dart as far as Totnes. The Port Sanitary Authority has supervision over it, but in the absence of an acting Inspector this supervision is purely nominal and potential.

10. *Lines of Railway conveying Goods from Port:—*
Great Western Railway only.

11. *Medical Officer of Health:* Robert Wills Soper.
Qualifications:—M.R.C.S., L.S.A. Salary, 12*l.* per annum, without repayment. Also acts as Medical Officer of Health for Dartmouth Borough.
Character and efficiency of work done by Medical Officer of Health:—
Except during the prevalence of cholera, or when called upon by the Customs to inspect a vessel it is difficult to see what work the Medical Officer of Health has hitherto performed.

12. *Inspector of Nuisances:* W. H. Angel.
No sanitary certificate.—Salary, none. Mr. Angel is a retired Master Mariner.
Character and efficiency of work done by Inspector of Nuisances:—
The Inspector was appointed on the understanding that he was only to act if called upon. He receives no payment whatever, not even a retaining fee. He has never yet been called upon to act. This official at the time of the Inspector's visit was absent from Dartmouth.

13. *Nuisances:—*
The figures supplied in the following table will perhaps give the best idea of the work done by the Medical Officer of Health. As regards the Inspector there is obviously nothing to be said. Judging from the Inspector's interview with the Medical Officer of Health, it would appear that nuisances have been very imperfectly dealt with at the Port, in that part.

INSPECTION OF SHIPPING IN 1890–91–92.

Date of Formation of New District, April 26th, 1889.	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
April 26th 1889 and 1890	Foreign	Steamers	50	6	—
		Sailing	—	(W.C.'s	—
		Fishing	—	and men's quarters).	—
		Total Foreign	50	6	—
	Coastwise	Steamers	6	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	6	—	—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	10	—	—
		Sailing	—	—	—
		Fishing	—	—	—
	Total Foreign		—	—	—
	Coastwise	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
	Total Coastwise		—	—	—
1892	Foreign	Steamers	46	Few minor defects.	—
		Sailing	—		—
		Fishing	—		—
	Total Foreign		46	—	—
	Coastwise	Steamers	6	—	—
		Sailing	—	—	—
		Fishing	—	—	—
	Total Coastwise		6	—	—

14. *Isolation Hospital* :—

During 1892 the Authority provided temporary provision in the shape of an old hulk. At the time of inspection in 1893 it had no isolation provision whatever. The Authority had however purchased an old passenger steamer. It is proposed to erect a hospital on the deck of this vessel, and reserve the rest of the vessel for administrative purposes. An old lifeboat is included in the purchase, and it is to be fitted up for the conveyance of sufferers. The accommodation should be ample.

15. *Disinfecting Apparatus* :—

None provided.

16. *Mortuary* :—

None possessed by Port Sanitary Authority.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

Between the mouth of the harbour and Sandquay Point. There are four places of debarkation in district, *i.e.*, Tucker, Kingswear, Dartmouth, and Totnes. All vessels must, however,

pass the boarding stations. Coasters are not as a rule boarded until some time after arrival. Their transires must be delivered to the Customs before unloading, and anyhow within 24 hours.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Special instructions in regard to Cholera have been given to the Pilots by the Customs Officer, who is chairman of the Pilotage Sub-Commissioners. Any infected vessel is to be brought up by the Pilots at the duly appointed Boarding Station.

c. Arrangements for communication between Officials detaining Vessels and Medical Officers of Health :—

The Customs officials communicate direct with the Medical Officer of Health.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

No boat belonging to Port Sanitary Authority. The Medical Officer of Health either uses the Customs boat or hires one.

e. Mooring Station :—

The "Range" is the duly appointed mooring station, but in the event of the weather being stormy vessels are to be moored in the Bight near Warfleet Cove.

Both these stations are satisfactory as regards isolation.

f. Inspection of Vessels ("infected" or from "infected port") :—

Vessels under both circumstances are detained and inspected.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Medical Officer of Health musters all on deck under both circumstances.

h. Address Book :—

Not kept.

i. Special Isolation Provision for Cholera :—

The ship which is purchased is the only provision.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

There should be room on the ship for cases of this kind.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

None at present, but as will be seen above it is proposed to utilise the lifeboat for this purpose.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

No arrangements have been made.

n. Arrangements made as to the Disposal of the Dead :—

Corpses to be taken out to sea with usual precaution as to securing shot, &c.

o. Action as to Water Supply of Vessels from Infected Ports:—

There are floating tanks in harbour from which water can be obtained to replace that pumped out under Medical Officer of Health's orders.

p. Action as to Bilges of Vessels from Infected Ports:—

The Medical Officer of Health has these pumped out.

Final Conference with the Dartmouth and Totnes Port Sanitary Authority was held on April 29th, 1893, when formal recommendations were made with regard to the following matters:—

1. The adoption of the Infectious Disease (Notification) Act, 1889.
2. The necessity for the regular and thorough inspection of vessels entering the Port.
3. The steps to be taken before hand to secure, in case of necessity, the medical inspection of *all* vessels entering the port whether by night or by day.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. The Infectious Disease (Notification) Act, 1889, adopted by the Port Sanitary Authority, May 12th, 1893. [Letter from Port Sanitary Authority, dated May 6th, 1893.]
2. The regular and thorough inspection of vessels entering Port carried out by the Inspector of Nuisances.
3. Regular Medical Inspection of vessels from infected or suspected Ports effected.
4. Floating Hospital completely fitted up for 25 patients, at a cost of 1,133*l.* [Annual Report of Port Medical Officer of Health for 1893.]

Kingsbridge and Salcombe Port Sanitary District.

[Dartmouth Customs Port (Part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* March 1st, 1893.

Date of Order *permanently* constituting Port Sanitary District:—September 28th, 1887.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed the Kingsbridge and Salcombe Port Sanitary Authority consisting of seven representative members as follows:—

Rural Sanitary Authority of Kingsbridge, four Members.

Urban Sanitary Authority of Salcombe, three members.

It exercises Port functions in waters abutting upon the above-named Sanitary Districts.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Dartmouth as lies to the north of a straight line drawn from Prawle Point to Bolt Head, and within or between the several Parishes of Malborough, West Alvington, Dodbrooke, Charleton, South Pool and East Portlemouth; together with the waters,"* &c.

The limits are considered quite satisfactory.

3. *Riparian District included* (wholly or in part) *in the Port Sanitary District:—*

Rural Sanitary District of Kingsbridge. Parishes:—Chivelstone, East Portlemouth, South Pool, Charleton, Dodbrooke, Kingsbridge, West Alvington, Malborough.

Urban Sanitary District of Salcombe:—The whole.

4. *Apportionment of Expenses:—*

The constituent Authorities contributes to the expenses as follows:—

Rural Sanitary Authority of Kingsbridge, four sevenths.

Urban Sanitary Authority of Salcombe, three sevenths.

5. *General Character and Efficiency of Administration:—*

Imperfect.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are indicated by *italics*):—

Foreign.—Callers for orders from Mexico and West Indies—sometimes from the Mediterranean and Hamburg.

Coastwise.—*Goole, Plymouth, Hull, Sunderland, Newcastle,* Cardiff, Swansea, Glasgow, Runcorn, Grimsby, Milford.

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* See footnote, page 89, *ante.*

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Foreign.—1890. Two vessels from France and one each from Channel Islands and Jamaica.

1891. Two vessels from South America, one from Sweden, one from Channel Isles, four from France.

1892. Two vessels from Mediterranean, one from Channel Isles, one Portugal, one West Indies, one Hamburg.

Coasting.—Steam. Principally two local steamers twice each week from Plymouth with passengers and general cargo.

Sailing.—Vessels with coal from Humber Ports, the Tyne. Blyth, Sunderland, Newport, (Mon.), Swansea, Milford, Liverpool, Runcorn, Glasgow, Ardrossan.

Manure and grain is principally imported from London, Exeter, and Plymouth.

Stone from Lyme Regis and Plymouth.

Fishing Trade is confined to the lobster carriers that ply between Lands End and Southampton.

During the three years 1890–92 only one French fishing vessel has entered the port, and then only through stress of weather.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	1	10	1	57	2	1,712
	Sailing	2	583	7	1,418	6	781
	Fishing	1	56	1	56	1	47
Total Foreign		4	649	9	1,531	9	2,540
Coastwise	Steamers	239	10,885	234	11,216	232	11,053
	Sailing	332	15 703	370	17,039	515	22,348
	Fishing	64	1,797	30	914	23	703
Total Coastwise		635	28,385	634	29,169	770	34,104

9. *Inland Water Communication :—*

Only as far as Kingsbridge.

10. *Lines of Railway conveying Goods from Port :—*

At present (1893) the nearest station is at Kingsbridge Road, on the Great Western Railway, ten miles from Kingsbridge. A line to Kingsbridge is, however, in course of construction.

11. *Medical Officer of Health :* Arthur Pearce, lives at Salcombe.

Qualifications :—M.R.C.S., L.S.A. Salary, 10*l.* per annum, with repayment. Mr Pearce also acts as Medical Officer of Health to the Salcombe Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—

Mr. Pearce apparently does what he can to persuade his Authority to make better provision, but he does not succeed in this. He performs his duties conscientiously. Judging from his annual reports he keeps himself well informed as regards the shipping and Port.

12. *Inspector of Nuisances:* H. R. Patey.

No sanitary certificate.—Salary, 5*l.* per annum, with repayment. Mr. Patey is also Inspector of Nuisances to the Salcombe Urban Sanitary Authority.

Character and efficiency of work done by Inspector of Nuisances:—

This officer, who is a carpenter by trade, was, at the time of the Inspector's visit, incapacitated by an attack of gout. He resides at Salcombe, close to the Harbour.

13. *Nuisances:*—

On contrasting the number of vessels arriving in the Port with those inspected the proportions are shown to be as under.

	Arrivals.		Inspections.	
	Foreign.	Coastwise.	Foreign.	Coastwise.
1890 - - -	4	635	1	21
1891 - - -	9	634	2	33
1892 - - -	9*	770	2	39

The figures include four trips weekly of steamers, &c. from Plymouth, and also a number of small vessels which are constantly leaving and entering the Port.

14. *Isolation Hospital:*—

There is no hospital accommodation either belonging to the Port Sanitary Authority or the Salcombe Urban Sanitary Authority.

15. *Disinfecting Apparatus:*—

None possessed by the Port Sanitary Authority, by the Salcombe Urban Sanitary Authority or by the Kingsbridge Rural Sanitary Authority.

16. *Mortuary:*—

The Port Sanitary Authority does not possess a mortuary.

There is one at Salcombe belonging to the Salcombe Urban Sanitary Authority.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

"Off Salcombe."

* Six of these were callers only.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Customs Officers will detain any ship either "infected" or coming from an "infected port."

There is no Pilotage Board at this port and consequently no licensed Pilots. There are seven or eight boatmen who act as unlicensed pilots, but these are under no control whatever, except in so far as they find it expedient to work with the local officials.

During the prevalence of cholera in 1892 the boatmen were told by the Customs not to board any vessel having sickness on board.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Customs communicate direct with the Medical Officer of Health, who lives but a short distance from the harbour.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

There is no boat belonging to the Port Sanitary Authority. The Medical Officer of Health has a small one of his own.

e. Mooring Station :—

The mooring station is situate in "the Bug."
It is well isolated.

f. Inspection of Vessels ("infected" or from "infected port"):—

Vessels under both circumstances are duly inspected.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

All persons would be mustered on deck and inspected under either of these circumstances.

h. Address Book :—

Provided.

i. Special Isolation Provision for Cholera :—

None made.

k. Arrangement for Isolation of Persons suspected to be suffering from Cholera :—

None made.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

No Hospital.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a*) Would be burnt.
(*b*) Fumigated with sulphurous acid.
(*c*) No provision whatever for disinfection.

n. Arrangements made as to the Disposal of the Dead :—

A body dead of cholera would be taken well out to sea, with proper provision as regards securing shot.

o. Action as to Water supply of Vessels from Infected Ports :—

Water would be taken out to a vessel in small casks.

p. Action as to Bilges of Vessels from Infected Ports :—

The bilges would be pumped dry.

Final Conference with the Kingsbridge and Salcombe Port Sanitary Authority was held on April 28th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of a proper and sufficient hospital, and of proper ambulances.
2. The provision of an efficient disinfecting apparatus.
3. The adoption of the Infectious Disease (Notification) Act, 1889.
4. The provision of a proper mortuary.
5. The steps to be taken in advance to secure, in the event of any marked extension of cholera in Europe, the medical inspection, by night as well as by day, of all vessels arriving at the port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

No information has been received in regard to this port beyond an assurance that the recommendations of the Inspector "are receiving the "attention of the Authority." [Letter dated February 30th, 1894.]

By an Order of the Board dated August 2nd, 1894, the constitution and apportionment of expenses of the Port Sanitary Authority have been altered, and are now as follows :—

Constitution :—

Rural Sanitary Authority of Kingsbridge—Three members.
Urban Sanitary Authority of Salcombe—Two members.
Urban Sanitary Authority of Kingsbridge—Two members.

Apportionment of Expenses :—

Rural Sanitary Authority of Kingsbridge—Three sevenths.
Urban Sanitary Authority of Salcombe—Two sevenths.
Urban Sanitary Authority of Kingsbridge—Two sevenths.

Diagram Map showing the Sanitary Districts Port & Riparian comprised in the Customs Ports of Plymouth Fowey Falmouth and Truro.

[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural districts each Parish that is riparian is separately designated.]

I Plymouth II Fowey III Falmouth & Truro.
Port Sanitary Districts

SECTION XII.

Customs Ports of Plymouth, Fowey, Falmouth and Truro.

Illustrated in Map XII.

LIMITS OF CUSTOMS PORTS.

(39.) *Plymouth.*

That the said Port of Plymouth shall commence from the west side of the Erme Mouth at the entrance into Bigbury Bay in a supposed direct or right line westward unto a headland commonly called Rame Head, and from thence in a supposed direct or right line into the east of the River called the Seation, together with*

Date of Treasury Warrant, 19th day of March 1840.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Plymouth and certain Riparian Parishes of the Rural Sanitary Districts of Plympton St. Mary and St. Germans. The shipping trade is practically confined to the Plymouth Port Sanitary District, as to which see report, page 409.

(40.) *Fowey.*

That the said Port of Fowey shall commence at the western side of the River Seation to the eastern side of the Deadman Point, together with*

Date of Treasury Warrant, 17th day of February 1840.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Fowey and certain Riparian Parishes of the Rural Sanitary Districts of Liskeard and St. Austell. The shipping trade is confined to the Fowey Port Sanitary District, as to which see report, page 417.

(41.) *Falmouth.*

The limits of the said Port shall extend from the western side of the Dodman Point, being the western boundary of the Port of Fowey, along the coast of the County of Cornwall, and up the eastern side of the Harbour of Falmouth until a direct line can be drawn from Messick Point to the north end of Mylor Church, on the south-west side of the River or Harbour opposite to the said Point, being the southern boundary of the Port of Truro, and thence proceeding along the said coast to the eastern side of the Lizard Point, being the eastern boundary of the Port of Penzance, and*

Date of Treasury Warrant, 10th day of February 1851.

Within the boundaries of the Customs Port are comprised a part of the Port Sanitary District of Falmouth-and-Truro, and certain Riparian Parishes of the Rural Sanitary Districts of St. Austell, Truro, and Helstone. The shipping trade is confined to the Falmouth-and-Truro Port Sanitary District, as to which see report, page 428.

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* See footnote, page 78, *ante*.

(42.) *Truro.*

The limits of the said port shall extend from the Quay of Truro, down the Truro River, to a point called Messick Point, on the east side of the said river, and thence in a direct line across to the north end of Mylor Church, on the south-west side of the River or Harbour, opposite to the said Point, and*

Date of Treasury Warrant, 10th day of February 1851.

The whole of this Customs Port is comprised within the boundaries of the Falmouth-and-Truro Port Sanitary District, as to which see report, page 428.

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* See footnote, page 78, *ante*.

Plymouth Port Sanitary District.

[Plymouth Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* March 2nd and 3rd, 1893.

Date of Order *permanently* constituting Port Sanitary District: July 3rd, 1882.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The Plymouth Port Sanitary Authority" consisting of nine representative members as follows:—Devonport Urban Sanitary Authority, two members, Plymouth Urban Sanitary Authority, four members, East Stonehouse Urban Sanitary Authority, one member, Plympton St. Mary Rural Sanitary Authority, one member, St. Germans Rural Sanitary Authority, one member.

It exercises Port functions in waters abutting upon the Urban Sanitary Districts of Plymouth, Devonport, and East Stonehouse, and upon the Rural Sanitary Districts of Plympton St. Mary and St. Germans.

2. *Limits of Jurisdiction:—*

"So much of the Port of Plymouth as lies to the north of an imaginary line following the southern side of Plymouth Breakwater, and extended East and West from either end of the Breakwater until it meets the shore, together with the waters,"* &c. &c.

There appears to be a general opinion in the locality that it would be well if the limits of jurisdiction were extended so as to embrace Yealm Mouth. It was stated that this was the river up which cholera was introduced in 1866 by French fishing smacks which came over from the coast of France to collect in well-boats the lobsters, &c. captured by the local fishing fleets. Yealm Mouth is in the Plympton St. Mary Rural Sanitary District, and Dr. Willoughby, the Medical Officer of Health, lives at Plymouth. Coastguards are stationed at the mouth of the river.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Devonport Urban Sanitary District:—The whole.
Plymouth Urban Sanitary District:—The whole.
East Stonehouse Urban Sanitary District:—The whole.
Plympton St. Mary Rural Sanitary District. Parishes:—Plymstock, Plympton St. Mary, Egg Buckland, Tennycross, St. Budeaux, Tamerton Foliott, Beer Ferris.
St. Germans Rural Sanitary District. Parishes:—Pillaton, Landulph, Botus Fleming, St. Stephen's, Landrake with St. Erney, St. Germans, Sheviock, Antony, St. John, Maker.

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* See footnote, page 89, *ante*.

4. *Apportionment of Expenses :—*

Devonport Urban Sanitary Authority, Plymouth Urban Sanitary Authority, East Stonehouse Urban Sanitary Authority. In proportion to rateable value of *whole* districts.

Plympton Rural Sanitary Authority, St. Germans Rural Sanitary Authority. In proportion to *one half* of the rateable value of such *parishes* as abut on the port.

Analysis of last Account :—

	£	s.	d.
Devonport Urban Sanitary Authority - -	213	0	4
Plymouth Urban Sanitary Authority - -	442	18	0
East Stonehouse Urban Sanitary Authority -	58	3	6
Plympton Rural Sanitary Authority - -	45	4	9
St. Germans Rural Sanitary Authority -	40	13	5
	£800	0	0

5. *General Character and Efficiency of Administration :—*

All the members apparently take an active and intelligent interest in Port Sanitary matters, and seem prepared to do what they can to make their defences efficient.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign.—Ports of Black Sea, *French Channel Ports, the Baltic, Hamburg, Antwerp,* and *Mediterranean.*

About 400 mails call in at Plymouth during the year, including following lines :—

New Zealand Shipping Company, touching at Cape, Rio Janeiro, and Teneriffe. Shaw Saville Shipping Company, touching at Cape, Rio Janeiro, and Teneriffe. P. & O. Shipping Company, Eastern and Mediterranean Ports. Orient Shipping Company, Australasia.

Donald Currie Shipping Company } Cape and Portugal.
Union Shipping Company }

Royal Mail Shipping Company, West Indies.

British India Shipping Company } India and Mediterranean.
McIver Shipping Company }

There is also communication weekly with *Hamburg, Antwerp,* and *Rotterdam,* but no passengers are carried by these boats.

Coastwise.—Coal from North-Eastern Ports and Bristol Channel, Glasgow, Ireland, London, and Southampton. Passenger and general cargo steamers to Salcombe twice weekly.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Foreign.—*Imports.* Grain, timber, valonia, hemp, tar, sugar, phosphates, pyrites, guano, cattle, hides, ice, petroleum.

Exports. China clay, artificial manure, arsenic, limestone, fish.

Coastwise.—*Inwards.* Coal, potatoes, cement.

Outwards. China clay, arsenic, copper ore, manure, timber, grain.

Before the issue of the rag orders rags were imported here from France. The orders seemed to check their advent, but since the Disinfection Order has been suspended, fresh arrivals of rags have taken place.

No emigration lines start from Plymouth now, but the mail and other steamers embark and disembark such of their passengers who prefer to join or leave the ship here rather than at her port of start or destination.

8. *Amount of Shipping Inwards during three years*, 1890-91-92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Coastwise	Steamers	202	110,642	205	106,754	225	111,294
	Sailing	467	92,414	423	93,055	444	82,816
	Fishing	3	89	5	158	—	—
Total Foreign		672	203,145	633	199,967	669	194,110
Foreign	Steamers	Steam and sailing not differentiated in 1890 and 1891.				1,970	164,834
	Sailing	3,116	613,077	2,979	585,690	1,247	464,527
	Fishing	No official record kept.					
Total Coastwise		3,116	613,077	2,979	585,690	3,217	629,361

No record is kept of those fishing vessels which simply put in for shelter or provisions.

The figures here given do not include vessels from foreign landing passengers and mails, or any vessels putting in for shelter, provisions, wind bound, or in distress.

9. *Inland Water Communication :—*

Up the Tamar as far as Calstock (22 miles).

Up the St. Germans River for 8 or 9 miles.

The Port Sanitary Authority is said to exercise supervision over this water and as far as is possible with *one* inspector this is done.

The annual report for 1891 states that during that year *seventy-one* barges trading backwards and forwards on the river were inspected by Mr. Kelly the Inspector of Nuisances (under The Canal Boats Acts).

10. *Lines of Railway conveying Goods from Port :—*

Great Western and London and South-Western Railways.

11. *Medical Officer of Health :* Frederick Mann Williams.

Qualifications:—M.R.C.S. Eng., L.R.C.P., and L.M. Edin., D.P.H. Camb. Salary, 100*l.* per annum, without repayment. Also acts as Medical Officer of Health for the Plymouth Urban District, and as quarantine officer appointed by the Privy Council.

Character and efficiency of work done by Medical Officer of Health :—Dr. Williams takes great interest in his work; he is used to seafaring methods, and thus well fitted to undertake what is sometimes a difficult task, the duty of visiting the hospital and other vessels in stormy weather. He is an intelligent, energetic officer, and apparently a good organiser. Besides this, he works extremely well with all the numerous authorities having jurisdiction in or around Plymouth Sound.

N.B.—Dr. Williams as "Quarantine Officer" boards all vessels from quarantine ports which are less than *twenty* days out. He receives due notice of their date of departure and expected arrival, and boards or not according to the period elapsed between departure and arrival. He receives 2*l.* 2*s.* by night and 1*l.* 1*s.* by day for each vessel inspected.

12. *Inspector of Nuisances:* E. B. Kelly.

No sanitary certificate. Salary, 117*l.* per annum without repayment. Mr. Kelly devotes his whole time to the work.

Character and efficiency of work done by Inspector of Nuisances:—

Mr. Kelly is a very satisfactory officer. He has had extensive nautical experience, and seems to possess the somewhat rare tact of being able to manage the seafaring class with whom he is brought so much in contact. His salary had, shortly before the date of inspection, been raised from 100*l.* to 117*l.* per annum.

13. *Nuisances:*—

The number of vessels, &c. inspected is given in the following table. Inspection seems to be diligently carried out not only by the Inspector of Nuisances but also by the Medical Officer of Health, who keeps himself well acquainted with the state of shipping in port.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	96	15	15
		Sailing	257	35	35
		Fishing	—	—	—
		Total Foreign	353	50	50
	Coastwise.	Steamers	406	28	28
		Sailing	1,613	114	114
		Fishing	—	—	—
		Total Coastwise	2,019	142	142
1891	Foreign	Steamers	103	9	9
		Sailing	280	20	20
		Fishing	—	—	—
		Total Foreign	383	29	29
	Coastwise.	Steamers	486	20	20
		Sailing	1,652	117	117
		Fishing	—	—	—
		Total Coastwise	2,138	137	137

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	113	18	18
		Sailing	316	30	30
		Fishing	—	—	—
		Total Foreign	429	48	48
	Coastwise.	Steamers	456	26	26
		Sailing	1,916	122	122
		Fishing	—	—	—
		Total Coastwise	2,372	148	148

NOTE.—The officer in charge of a vessel is notified on the spot to remedy anything defective, or insanitary; if not done when visited again, then an order is issued—which is said not to occur once a year.

Twenty-four steamers and vessels trade regularly to the Great Western Docks, and Sutton Pool; they are said to be inspected about once a fortnight; they make several intermediate trips during that time, consequently the Customs returns show a larger total for the year than the above.

14. *Isolation Hospital:—*

The old wooden frigate (1620 tons-40 guns) "Pique" serves the purpose of an Isolation Hospital for the port. This vessel was built 63 years ago, and is moored in Jennycliffe Bay, distant about 1½ miles from the docks and landing stages, but not far from either the boarding or mooring station. She is a large two-decked vessel, and would accommodate comfortably some 50 or 60 patients. There are numerous little cabins well adapted for one case, which are properly fitted with a stove, &c. The vessel is in charge of a caretaker, and is quite ready for the reception of patients. At the time of inspection the only patient on board was a man convalescent from small-pox. When the "Maud," a vessel recently purchased by the Plymouth Urban Sanitary Authority, is fitted up, it is proposed to use her for small-pox. Sufferers are conveyed in a large open boat, the property of the Port Sanitary Authority. It measures 25 feet by 8 feet. Patients are lifted up into the vessel by means of a derrick. The water-supply is derived from the town of Plymouth, and there is a tank on board capable of holding 10 tons. The drains of the vessel run through covered channels into the sea. Excrement is thoroughly mixed with perchloride of mercury and passed down the drains. There is a boiler for washing clothes on deck. With the "Pique" and "Maud" practically at the disposal of the Urban and Port Sanitary Authorities, there should now be no difficulty in properly isolating cases.

15. *Disinfecting Apparatus:—*

The Port Sanitary Authority has no apparatus whatever. The Plymouth Urban Sanitary Authority is about to erect one.

16. *Mortuary :—*

Any patient dying on board the "Pique" would be kept in a spare cabin on deck house. There is ample accommodation on board.

17. *Regulations under Section* 125, *Public Health Act*, 1875.

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889.

Adopted January 28th, 1891.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The appointed boarding station is "in the Sound," but boarding does not always take place there. If a ship by waiting to be boarded would lose a tide the usual practice appears to be for her to forthwith enter the docks and be there inspected by the Customs. During the prevalence of cholera in 1892 all foreign vessels are stated to have been boarded in the Sound.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

All infected vessels or vessels from infected ports are detained by the Customs during the day. At night the watchmen would at once call the Customs officials in the event of *any* foreign vessel arriving at the docks. During the prevalence of cholera in 1892 a night staff of Customs Officers was kept up, and it is proposed in the event of the necessity arising to revert to the same practice.

There are 30 licensed Pilots at this port who are under the Sub-Commissioners appointed by Trinity House. No instructions under the Cholera Orders have been issued to them. The number of Pilots at the port has somewhat decreased of late, owing to the increasing number of masters who obtain pilots' certificates.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

By the courtesy of the manager to the Telephone Company the Customs communicate with the Medical Officer of Health by telephone. As a rule, on finding *any* illness on board ship the Customs officials at once come for Dr. Williams in their launch.

In the event of mail steamers which call at Plymouth having cases of infectious disease on board, a telegram is sent by the Port Sanitary Authority to the Port Sanitary Authority of the port of destination.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

As a rule the Medical Officer of Health proceeds to a vessel in the Customs launch, but there are two boats, belonging to the Port Sanitary Authority, for the use of their officers when

inspecting shipping. A blue flag with "Plymouth Port Sanitary Authority" emblazoned thereon is carried by the boats when on service.

e. Mooring Station:—

The mooring station is fixed in the old Quarantine Ground where the "Pique" is moored. There is ample room for the proper isolation of any number of vessels, and the only objection to be urged against the spot is its exposed position.

f. Inspection of Vessels ("infected" or from "infected port"):—

Broadly speaking vessels under either of these circumstances are duly inspected, but vessels coming from what must be regarded as "infected ports" such as Bombay and Calcutta are not as a rule medically examined. Any vessel, however, coming from an infected port in Europe would be carefully examined.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

All persons are mustered on deck and carefully inspected.

h. Address Book:—

Not provided at date of inspection.

i. Special Isolation Provision for Cholera:—

There is no special provision for cholera, but there is ample room on board the "Pique" for the treatment of any infectious disease othan than small-pox. The Urban Sanitary Authority has just purchased a vessel to be used for small-pox and which is to be moored in the same bay with the "Pique." As Dr. Williams is Medical Officer of Health to both town and port the control of both vessels will rest with him, and he should therefore have no difficulty in properly distributing the patients.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

In times of the absence of small-pox the new ship, the "Maud," might probably be utilised for this purpose if necessary.

There would, however, be no difficulty in accommodating both real and suspected cases of cholera on board the "Pique."

Means provided for Transfer of Infected Persons from Ship to Hospital:—

Patients are transferred in either a large sailing boat or a rowing boat, both of which belong to the Port Sanitary Authority. If necessary a steam tug is utilised for drawing the boat. The patients are hoisted on board the "Pique" by means of a derrick. The arrangement is not of the best, but the War Office object to any structural alteration.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) *Clothes* are destroyed.

(*b.*) *Ships* fumigated with sulphurous acid, and the deck, &c. washed down with per-chloride of mercury solution.

(*c.*) There is no provision for disinfecting goods.

n. Arrangements made as to the Disposal of the Dead :—

There is a great difficulty in connexion with the question of the disposal of the dead. It is alleged that it is unsafe or rather inexpedient to take the bodies out to sea, owing to the risk of the trawlers recovering them, even, it is said, as far out as 30 miles. The Urban Sanitary Authority objects to the bodies being taken through the town.

o. Action as to the Water Supply of Vessels from Infected Ports :—

Water supplies are ordered to be discharged and a fresh supply taken in.

p. Action as to Bilges of Vessels from Infected Port :—

Bilges pumped out and disinfected.

Final Conference with the Plymouth Port Sanitary Authority was held on May 27th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of a suitable disinfecting apparatus.
2. The steps to be taken to secure, in the event of any marked extension of cholera in Europe, or of its importation to British ports, the medical inspection, by night as well as by day, of vessels from foreign and coastwise respectively.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. Medical inspection of every vessel from infected or suspected ports (home or foreign) upon arrival.
2. Every vessel entering the port visited on her arrival by the Port Inspector of Nuisances.
3. A steam launch provided for the use of the port officials for boarding purposes.
4. A Deputy Port Medical Officer of Health appointed.
5. Vessels from "infected" or "suspected" ports visited daily during their stay in the port.
6. Night visits (except in the case of two lines of steamers calling at Plymouth once a fortnight) not necessary, as the Customs officials board no vessels after 7.30 p.m.; vessels arriving after that time have to bring up at the boarding station, and are cleared in the morning. [Letter from Port Medical Officer of Health, dated September 20th, 1893.]

Fowey Port Sanitary District.

[Fowey Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* March 17th and 18th, 1893.

Date of Order constituting *permanently* Port Sanitary District: November 20th, 1886.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is a Joint Board termed "the "Fowey Port Sanitary Authority," and consists of seven members composed of representatives of the Rural Sanitary Authorities of St. Austell and of Liskeard as follows :—

St. Austell Rural Sanitary Authority, five members; Liskeard Rural Sanitary Authority, two members. It exercises port functions in waters abutting upon the Rural Sanitary Districts named above.

2. *Limits of Jurisdiction :—*

"So much of the Customs Port of Fowey as lies between the point known as Pen Rock, situated to the east of the Town of East Looe, and the southern extremity of Portmellin, in Mevagissey Bay, and including the waters of the River Fowey as far as the entrance to Lerrin Creek, together with the waters," &c.*

The Port Sanitary Authority consider these limits as entirely satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

St. Austell Rural Sanitary District. Parishes :—Mevagissey, St. Austell, St. Blazey, Tywardreath, Fowey, St. Sampson.

Liskeard Rural Sanitary District. Parishes :—St. Veep, Lanteglos, Lansallos, Tallant, West Looe, East Looe.

4. *Apportionment of Expenses :—*

The Riparian Authorities contribute towards the expenses of the Port Sanitary Authority in the following proportions :—

St. Austell Rural Sanitary Authority, four-fifths.

Liskeard Rural Sanitary Authority, one-fifth.

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* See footnote, page 89, *ante*.

5. *General Character and Efficiency of Administration* :—

As regards Fowey itself the administration is very fair, but as regards the sub-ports of Charlestown, Looe, and Par the administration has not hitherto been satisfactory.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are printed in *italics*) :—

(*a.*) FOREIGN :—*Havre*, *Antwerp*, *Dordt*, *Rouen*, *Caen*, *Dunkirk*, Rotterdam, *Cadiz*, *Sundsvall*, *Königsburg*, *Frederichstad*, *Rafeo*, *Lisbon*, Copenhagen, *Genoa*, Gallipoli, *Parsager*, *Brest*, Nantes, *Porsgrund*, *Cherbourg*, St. Breux, Dantzic, Channel Islands.

(*b.*) COASTWISE :—*Cardiff*, *Newport*, *Swansea*, *Runcorn*, *Liverpool*, *Newcastle*, *Leith*, *Plymouth*, *London*, Belfast, Dublin.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports :—
Foreign :—Grain, timber, potatoes, salt, phosphates.
Coastwise :—Manure, coal, grain, iron, bricks.
Exports :—
Foreign :—China clay, cured fish, stone, rags.
Coastwise :—China clay, fish, salt (for manure), flour.
Passengers occasionally from Plymouth and Falmouth.
No immigrants or transmigrants.

8. *Amount of Shipping Inwards during three years*, 1890-91-92 :—

(*a.*) Fowey.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	32	7,351	27	7,431	36	10,147
Foreign { Sailing	43	18,041	72	14,978	49	15,985
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	75	25,392	99	22,409	85	26,132
Coastwise { Steamers	84	19,164	106	25,083	112	23,810
Coastwise { Sailing	546	58,291	446	48,730	487	57,443
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	630	77,455	552	73,813	599	81,253

(*b.*) Charlestown.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	49	5,524	61	6,834	51	6,923
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	49	5,524	61	6,834	51	6,923
Coastwise { Steamers	3	114	2	78	11	239
Coastwise { Sailing	648	54,042	618	49,805	601	49,540
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	651	54,156	620	49,883	612	49,779

(*c.*) Looe.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	3	455	3	516	5	476
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	3	455	3	516	5	476
Coastwise { Steamers	10	1,681	14	2,167	37	2,685
Coastwise { Sailing	279	14,300	247	12,909	275	13,522
Coastwise { Fishing	67	750	72	800	72	900
Total Coastwise	356	16,731	333	15,876	384	17,107

(*d.*) Par.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	7	862	16	793	10	1,642
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	7	862	16	793	10	1,642
Coastwise { Steamers	—	—	—	—	—	—
Coastwise { Sailing	245	22,627	247	22,496	260	23,973
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	245	22,627	247	22,496	260	23,973

(*e.*) Polkerris.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers, Sailing, Fishing	Nil.		Nil.		Nil.	
Total Foreign	Nil.		Nil.		Nil.	
Coastwise { Steamers	—	—	—	—	—	—
Coastwise { Sailing	1	75	1	75	1	75
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	1	75	1	75	1	75

9. *Inland Water Communication :—*

Only a few barges with coal up the River Fowey to Lostwithiel.

10. *Lines of Railway conveying goods from Port :—*

Great Western Railway.

11. *Medical Officer of Health :* Thomas St. Patrick Tuckey.

Qualifications :—M.B., M.Ch. Salary, 25*l.* per annum, with repayment. During period when carrying out precautions against cholera his salary is at the rate of 50*l.* per annum.

Character and efficiency of work done by Medical Officer of Health :—The medical officer has some 22 miles of coast line under his supervision. His responsibilities are therefore very great. As he is expected to visit every foreign ship from "the infected area" which enters Fowey, it is obvious that he can pay but little attention to the other places of debarkation in the district. Dr. Tuckey resides at Tywardreath, about 4½ miles from Fowey, and consequently a good deal of his time is taken up in travelling to and from Fowey. Fowey itself is well looked after, but it would appear that sufficient general supervision has not been exercised with regard to the other sub-ports in the district. In the event of cholera breaking out in our home ports it would be quite impossible for Dr. Tuckey to undertake all the necessary inspection of vessels entering the district coastwise.

12. *Inspector of Nuisances:* R. S. Peake.

Qualifications :—A retired master mariner. Salary, 50*l.* per annum, with repayment.

This officer devotes his whole time to the duties of his office.

Character and efficiency of work done by Inspector of Nuisances : — Good. This officer is decidedly competent. He possesses a good knowledge of shipping matters and uses it to the best advantage in the performance of his duties. He resides close to the water's edge at Fowey, and is thus advantageously situated for attending to any questions which may arise. He also inspects at intervals the shipping of the smaller ports in his district, such as Charlestown, Par, &c.

13. *Nuisances :—*

Nuisances are apparently well attended to in Fowey Harbour, but it is difficult with the staff at the disposal of the sanitary authority to exercise supervision over the sanitary condition of vessels at the smaller ports. The Inspector of Nuisances does his utmost, but considering the extent of coastline over which his port authority exercises jurisdiction it is obvious that vessels in harbours other than Fowey can have but little attention.

INSPECTION of SHIPPING in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	30	—	—
		Sailing	129	2	2
		Fishing	—	—	—
		Total Foreign	159	2	2
	Coastwise.	Steamers	40	—	—
		Sailing	205	3	3
		Fishing	—	—	—
		Total Coastwise	245	3	3

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	14	—	—
		Sailing	140	—	—
		Fishing	—	—	—
		Total Foreign	154	—	—
	Coastwise.	Steamers	31	—	—
		Sailing	197	—	—
		Fishing	—	—	—
		Total Coastwise	228	—	—
1892	Foreign	Steamers	25	—	—
		Sailing	124	1	—
		Fishing	—	—	—
		Total Foreign	149	1	—
	Coastwise.	Steamers	34	—	—
		Sailing	164	—	—
		Fishing	—	—	—
		Total Coastwise	198	—	—

14. *Isolation Hospital:—*

The Port Sanitary Authority erected a hospital in 1891; it consists of a galvanised iron building built on brick foundations, and lined with match-boarding and felt. It is situated close to the edge of the River Fowey, in a well isolated position, about one mile from the boarding station. Ships having infectious sickness on board would, at high tide, be able to anchor just off the hospital. Accommodation is provided for four persons suffering from one disease. The Inspector of Nuisances frequently visits the building, and all is in good order. The Port Sanitary Authority possesses a properly equipped and covered boat for the conveyance of patients from ship to shore, from whence to hospital they would be carried in a hand litter. There is no proper space for erection of more buildings on the site, but there would probably be little difficulty in obtaining temporary accommodation on some adjoining and well isolated ground. Water supply laid on to hospital from a reservoir constructed in the corner of a hill-side rivulet. Drainage passes into a ventilated cesspool. There is provision for washing, but no separate laundry.

15. *Disinfecting Apparatus:—*

No disinfecting apparatus belonging to either the Port Sanitary Authority or either of the Contributory Rural Sanitary Authorities.

16. *Mortuary:—*

No proper building, but it is proposed to use a small outhouse at the hospital as a mortuary.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

Regulations have been made by the Port Sanitary Authority under the above section for the removal to hospital of persons with a dangerous infectious disorder brought within their jurisdiction by any ship or boat. These regulations were approved by the Local Government Board 25th October 1888.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Adopted February 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

There are, within the limits of jurisdiction of the Fowey Port Sanitary Authority, seven separate places of debarkation. These are not, as is frequently the case, situate around an inland sea or sound, but each is situate on the seaboard, and may be regarded as a distinct port. The boarding stations are as follows :—

Fowey : Outside an imaginary line drawn between the old castles on either side of the harbour.

Charlestown : At the entrance of the dock. "When necessary," ships will be boarded outside the dock.

Looe : At the entrance of the tidal harbour.

Pentuan : Within the pier head.

Mevagissey : At the entrance of the harbour.

Polperro : No appointed boarding station ; only resorted to by fishing smacks.

Polkerris : No appointed boarding station ; only an average of one coaster annually. No foreign trade.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

At Fowey Pilots have been instructed by the Pilotage Sub-Commissioners to bring up all foreign vessels coming from "the infected area" outside the line referred to above (*a.*), and there await medical inspection.

At Charlestown and Par the vessel would be detained by the Customs Officer.

At Looe arrangements have been made whereby the Harbour Master in conjunction with the Coastguard would detain an "infected" or "suspected" vessel outside the harbour.

At Pentuan the Harbour Master and Coastguard board all vessels coming from foreign. If any sickness on board vessel would be detained pending visit of Medical Officer of Health. Pentuan is a "private harbour," and all the Pilots, who are unlicensed and known as "hobblers," have been instructed to ask "health questions." If illness on board they detain vessel outside the harbour.

At Mevagissey, Polperro, and Polkerris vessels would be detained by Coastguard.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

Prior to the visit of the Inspector the arrangements made were not satisfactory at some of the sub-ports. The arrangements were as follows :—

In the following cases communication was to be made to Port Medical Officer of Health by telegram. Fowey by Port Inspector of Nuisances; at Charlestown and Par by Customs; at Looe by Harbour Master and by Coastguard; and at Pentuan by Harbour Master. At Mevagissey the Coastguard would telegraph to the Divisional Officer at Fowey; at Polperro the Coastguard would telegraph to their Divisional Surgeon at Looe; and at Polkerris the Coastguard would communicate with Customs Officer at Par.

Arrangements were made at the time of inspection for communication being made direct to the Port Medical Officer of Health.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority possesses a rowing boat for the use of its officers.

e. Mooring Station :—

The mooring station is at Wiseman's Stone, about 1½ miles up the Fowey River. This station is in a well isolated position above the shipping of the port.

f. Inspection of Vessels ("infected" or from "infected port") :—

This is very diligently carried out at Fowey. All vessels from what the Port Sanitary Authority regard as "the infected area" are brought up by the pilots outside the harbour, and are then inspected by the Medical Officer of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port") :

In either case all persons on board are passed in Indian file before the Medical Officer of Health.

h. Address Book :—

Duly provided.

i. Special Isolation Provision for Cholera :—

The iron hospital referred to in section 14.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

If the hospital were occupied, persons suspected to be suffering from cholera would be detained on board vessel.

l. Means provided for transfer of Infected Persons from Ship to Hospital :—

A large boat properly fitted and covered over is possessed by the Port Sanitary Authority. A good litter is kept at the hospital for the conveyance of patients from the boat to the hospital.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Clothes; destroyed.
(*b.*) Ship; fumigation with sulphurous acid.
(*c.*) Goods; no means for efficient disinfection in district.

n. Arrangements made as to Disposal of Dead :—

It is proposed to dispose of cholera dead, by burial at sea. There would, it is alleged, be the strongest objection to burial on shore.

o. Action as to Water Supply of Vessels from infected Ports :—

If the port from which a vessel comes is known to be infected the water tanks are ordered to be emptied and cleansed.

Fresh water is obtained at the expense of the owners.

p. Action as to Bilges of Vessels from infected Ports :—

Pumped out and disinfected.

Final Conference with the Fowey Port Sanitary Authority was held on May 11th, 1893, when formal recommendations were made with regard to the following matters :—

1. The arrangements to be made for securing an extension of the hospital provision.
2. The provision of efficient means for disinfection of infected articles.
3. The steps to be taken beforehand to ensure, in the event of any marked extension of cholera in Europe, the medical inspection of all vessels entering the several harbours within the jurisdiction of the Port Sanitary Authority.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

The Port Sanitary Authority has appointed Deputy Medical Officers of Health for the several sub-ports, and have thus made provision for the medical inspection of vessels arriving therein. [Letter from Port Sanitary Authority, September 25th, 1893.]

Falmouth and Truro Port Sanitary District.

[Falmouth (part of) and Truro (whole) Customs Port.]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* March 20th and 21st, 1893.

Date of Order *permanently* constituting Port Sanitary District; August 23rd, 1888, as amended July 6th, 1893.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Falmouth and Truro Port Sanitary Authority," and consists of 16 representative members, as follows:—

Urban Sanitary Authority for the borough of Falmouth, six members.

Urban Sanitary Authority for the borough of Penryn, one member.

Urban Sanitary Authority for the city of Truro, four members.

Rural Sanitary Authority for the Rural Sanitary District of Falmouth, one member.

Rural Sanitary Authority for the Rural Sanitary District of Truro, three members.

Rural Sanitary Authority for the Rural Sanitary District of Helston, one member.

It exercises Port functions in waters abutting upon the Sanitary Districts named above.

2. *Limits of Jurisdiction:—*

"To the whole of the Port of Truro* and so much of the Port of Falmouth as is comprised within the following lines, that is to say,—a straight line coincident with the southern boundary of the Port of Truro, a straight line drawn from the southern extremity of Zoze Point to the eastern extremity of Dennis Head, a line drawn along the coast from the eastern extremity of the said southern boundary of the Port of Truro to the southern extremity of Zoze Point, and a line drawn along the coast from the western extremity of the said southern boundary of the Port of Truro and across the mouth of the Helford River to the eastern extremity of Dennis Head,—and as includes so much of the Helford River as extends from the sea, to a straight line drawn due east and west across the said river to the nearest points in the Parishes of Wendron and

---

* For the limits of the Port of Truro, see page 408, *ante*.

Constantine, at the distance of half a mile from the south-eastern extremity of the Parish of Wendron, together with the waters,"* &c. These limits are apparently satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Truro Urban Sanitary District.
Falmouth Urban Sanitary District.
Penryn Urban Sanitary District.
Truro Rural Sanitary District. Parishes :—St. Antony in Roseland, Gerrans, St. Just in Roseland, Philleigh, Ruan Lainihorne, Veryan, Cornelly, Lamorran, St. Michael Penkivel, Merther, St. Clement, Kencoyn, Kea, and Feock.
Helston Rural Sanitary District. Parishes :—St. Antony in Meneage, Manaccan, St. Martin in Meneage, Mawgan in Meneage, and Wendron.
Falmouth Rural Sanitary District. Parishes :—Myler, Perranarworthal, Budock, Mawnan, and Constantine.

4. *Apportionment of Expenses :—*

The constituent Authorities contribute towards the expenses in the following proportions :—
Borough of Falmouth Urban Sanitary Authority, six sixteenths.
Borough of Penryn Urban Sanitary Authority, one sixteenth.
City of Truro Urban Sanitary Authority, four sixteenths.
Falmouth Rural Sanitary Authority, one sixteenth.
Helston Rural Sanitary Authority, one sixteenth.
Truro Rural Sanitary Authority, three sixteenths.

5. *General Character and Efficiency of Administration :—*

The Sanitary Authority does not properly realise its responsibilities.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—
Foreign.—San Francisco, Portlandos, Pisaqua, Iquique, Antofagasta, Ports in River Plata and Brazil, West Indies, Mexico, Ports in Morocco, Calabar and Congo Rivers, Ports in Black Sea and Sea of Azof, Baltic Ports, Hamburg, Antwerp, Rotterdam, Amsterdam, and principal ports between Elbe and Brest, Australia, New Zealand, and East Indies.
Coastwise.—Coal ports in England, Wales, and Scotland.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—
Imports : Timber, corn, phosphates, explosives, potatoes, and onions.
Exports : Granite and china clay.
Passengers : An occasional passenger landed from vessels calling for orders.
No rags, immigrants, or transmigrants.

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* See footnote, page, 89, *ante*.

8. *Amount of Shipping Inwards during three years,* 1890-91-92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign (estimated)	Steamers and Sailing	1,500	780,000	1,400	845,000	1,360	980,000
	Fishing	20	1,400	20	1,400	20	1,400
Total Foreign		1,520	781,400	1,420	846,400	1,380	981,400
Coastwise (estimated)	Steamers and Sailing	1,570	213,000	1,800	225,000	1,900	290,000
	Fishing	3,650	55,000	3,650	55,000	3,650	55,000
Total Coastwise		5,220	268,000	5,450	280,000	5,550	345,000

9. *Inland Water Communication :—*

None.

10. *Lines of Railways conveying Goods from Port :—*

Great Western Railway only.

11. *Medical Officers of Health :* (*a*) W. King Bullmore and (*b*) E. T. Sharp, deputy.

Qualifications.—(*a*) M.R.C.S., L.S.A.; M.D. St. Andrews. (*b*) M.R.C.S., L.S.A.

Salary :—(*a*) 50*l.* per annum, with repayment; (*b*) 10*l.*, per annum.

Dr. Bullmore is Medical Officer of Health for the Falmouth Urban Sanitary District.

Dr. Sharp, who is only appointed to act in the case of disease occurring on board a vessel in Truro is also Medical Officer of Health for Truro.

Character and efficiency of work done by Medical Officer of Health :—

Good. Dr. King Bullmore is an energetic and strong officer, but he has to carry out his work in face of an authority who do but little to aid him, and a good deal to make his position a difficult one. For instance, the authority is of opinion that it should be consulted prior to the Medical Officer of Health taking any action with reference to a vessel infected with cholera.

12. *Inspector of Nuisances :* Charles Barnicoat.

No sanitary certificate. Salary, 10*l.* per annum without repayment.

Character and efficiency of work done by Inspector of Nuisances :—

This Inspector, who is a mason by trade, only devotes so much of his time to the duties of his office as is required, when a vessel arrives in Port with infectious disease on board. He is then expected to supervise and assist in the removal of patients, the disinfection of the vessel, and, if necessary, the burial of the dead. Under any of these circumstances it has been the custom of the Sanitary Authority to vote the Inspector a gratuity in addition to his annual stipend.

13. *Nuisances :—*

As regards nuisances existing on vessels, practically nothing is done, unless there be infectious disease on board. No systematic inspection of vessels is carried out, or attempted, by the Inspector of Nuisances, and as will be seen by the following table but little has been done in this way by the Medical Officer of Health.

INSPECTION OF SHIPPING IN 1890–91–92 BY THE MEDICAL OFFICER OF HEALTH.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	1	—	—
		Sailing	5	3	3
		Fishing	—	—	—
		Total Foreign	6	3	3
	Coastwise	Steamers	2	—	—
		Sailing	4	2	2
		Fishing	1	—	—
		Total Coastwise	7	2	2
1891	Foreign	Steamers	1	—	—
		Sailing	11	6	6
		Fishing	—	—	—
		Total Foreign	12	6	6
	Coastwise	Steamers	—	—	—
		Sailing	4	—	—
		Fishing	—	—	—
		Total Coastwise	4	—	—
1892	Foreign	Steamers	8	4	4
		Sailing	10	3	3
		Fishing	—	—	—
		Total Foreign	18	7	7
	Coastwise	Steamers	—	—	—
		Sailing	6	—	—
		Fishing	—	—	—
		Total Coastwise	6	—	—

14. *Isolation Hospital :—*

The Port Sanitary Hospital is situated on a well isolated site overlooking the sea and distant about 1 mile from the landing stage. The building is constructed of wood covered with slates. There are two wards possessing a cubic capacity of

1620 feet each. In each of these wards there are three beds and it is proposed if need be to add a fourth, thus giving but 405 cubic feet to each bed. Only one patient ought to be placed in each ward. The accommodation, such as it is, is ready for the reception of patients and the building is well taken care of by the caretaker and his wife, and carefully supervised by the Medical Officer of Health. Sufferers are conveyed from the docks to the hospital in a covered van on springs ; and a set of regulations have been drawn up by the Medical Officer of Health for the guidance of the Inspector in removing the sick from ship to hospital. The Sanitary Authority have obtained permission from the landlord of the adjoining property to erect temporary structures thereon if necessary. Water supply is obtained from rain-water tanks and if necessary from wells in an adjoining property. Drainage into cesspools. Excrement mixed with inflammable material burned and buried. Laundry operations carried on in an outhouse.

15. *Disinfecting Apparatus :—*

No apparatus possessed either by Port Sanitary Authority or Falmouth Urban Sanitary Authority.

16. *Mortuary :—*

None possessed by Port Sanitary Authority.

17. *Regulations under Section* 125 *Public Health Act,* 1875 :—

None made.

18. *Infectious Disease (Notification) Act,* 1889 :—

Act adopted February 20th, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

In Falmouth Harbour. All foreign vessels are boarded by the Customs, but coasters are as a rule not. It is said that in many cases the tradespeople in the town hold personal communication with ships prior to their being inspected by the Customs and it appears there is the greatest difficulty in preventing these irregularities. Only a day staff of Customs is maintained and during the night the customs functions are carried out by Coastguards.

b. Arrangements as to the Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Customs detain foreign vessels by day.
The Coastguards detain foreign vessels by night.
No special instructions other than those contained in the "Quarantine regulations," have been given by the Sub-Commissioners to the Pilots, of whom there are 58 at Falmouth.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Medical Officer of Health lives but a short distance from the Customs House and the Customs Officials communicate with him either by night or by day if necessary.

d. Means Provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

There is no boat belonging to the Port Sanitary Authority and the Medical Officer of Health either makes use of the Customs' launch or hires a rowing boat.

e. Mooring Station :—

The mooring station is situated in the old Quarantine ground at St. Just Pool. It is well isolated.

f. Inspection of Vessels ("infected" or from "infected port") :—

During the prevalence of cholera on the Continent all vessels under either of the above circumstances are duly inspected.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

The Medical Officer of Health has all on board mustered and inspected.

h. Address Book :—

Provided.

i. Special Isolation Provision for Cholera :—

Except in so far as the loan of land has been obtained, no special provisions have been made.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

The Sanitary Authority has a very great objection to any persons under these circumstances being landed ; and in 1892 after three patients suffering from cholera had been sent to the hospital the Sanitary Authority threatened to call upon the Medical Officer of Health to resign if he landed others without first consulting the Chairman.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

The ship's boat is used for taking patients from ship to shore and minute instructions have been drawn up by the Medical Officer of Health for the guidance of those conducting the removal.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods :—*

(*a*) to be destroyed.
(*b*) fumigation with sulphurous acid.
(*c*) No arrangements made.

n. Arrangements made as to the Disposal of the Dead :—

It is proposed to inter in the cemetery which is but a short distance from the hospital. The Medical Officer of Health has issued regulations in detail as to the precautions to be observed.

o. Action as to Water Supply of Vessels from Infected Ports :

Vessels under these conditions are ordered to empty and cleanse their water tanks. They are refilled from the tank boats at the expense of the owners.

p. Action as to Bilges of Vessels from Infected Ports :—

The bilges under these circumstances are pumped out and disinfected.

Final Conference with the Falmouth and Truro Port Sanitary Authority was held on May 12th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for the thorough and regular inspection of vessels entering the port.
2. The necessity for supplementing the very scanty hospital provision in existence at the port.
3. The provision of suitable means for the conveyance by water of (*a*) the inspecting officers of the authority, and of (*b*) the sick.
4. The steps to be taken beforehand to secure, in case of necessity, the medical inspection of *all* vessels entering the port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

The Port Sanitary Authority has made arrangements for procuring additional land in case of necessity, and the erection thereon of tents, &c. [Letter from Port Sanitary Authority, dated August 4th, 1893.]

Arrangements made for inspecting medically all vessels from "infected ports" whether foreign or coastwise. [Letter from Port Medical Officer of Health, dated October 5th, 1893.]

Arrangements made for the erection of huts and tents at the shortest notice, in case the existing hospital provision should prove to be insufficient. [Annual Report of Port Medical Officer of Health, 1893.]

SECTION XIII.

Customs Ports of Penzance, Isles of Scilly, and Padstow.

Illustrated in Map XIII.

LIMITS OF CUSTOMS PORTS.

(43.) *Penzance.*

The limits of the said Port of Penzance shall commence at the western side of the Lizzard Point, in the County of Cornwall (being the western limit of the Port of Falmouth), and shall continue from thence in a westerly direction round the Land's End, and thence in a north-easterly direction to a place called Chapel and Gother, in Perranzabuloe, and described in the Ordnance Map as Chapel Rock (being the western limit of the Port of Padstow), and shall*

Date of Treasury Warrant, 10th day of January 1882.

Within the boundaries of this Customs Port are comprised the Port Sanitary Districts of Penzance and Hayle, the Urban Riparian Sanitary Districts of Helston, St. Ives, and Camborne, and certain Riparian Parishes of the Rural Sanitary Districts of Helston, Penzance, Redruth, and Truro. The shipping trade is practically confined to the two Port Sanitary Districts of Penzance and Hayle, with regard to which reports will be found at pages 433 and 445 respectively.

(44.) *Isles of Scilly.*

As regards this Port (Scilly Islands, and surrounding rocks) no Treasury Warrant has ever been issued, so that it is not in effect a properly constituted Customs Port. It lies outside the limits of the Customs jurisdiction of Great Britain, and its definition as a "Port" for certain purposes seems to have relation only to the exigencies of the small foreign trade.

The whole of this Port is comprised within the limits of the Port Sanitary District of the Isles of Scilly, as to which a report will be found at page 439.

(45.) *Padstow.*

The limits of the said Port shall extend from Dazard Point, in the Parish of Saint Genny's, in the County of Cornwall, from thence to the Haven's Mouth at Padstow, and from thence westward to a place on the coast called Chapel and Gother, in Perranzabuloe, commonly called Perau Sands, in the said County of Cornwall, being the farthest extent westward of the said Port, and shall*

Date of Treasury Warrant, 13th day of December 1850.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Padstow, the Urban Riparian Sanitary District of Newquay, and certain Riparian Parishes in the Rural Sanitary Districts of Truro, St. Columb, Bodmin, Camelford, and Stratton. The shipping trade is practically confined to the Padstow Port Sanitary District, and the Newquay Urban Riparian District, and reports with respect to these districts will be found at pages 453 and 451 respectively.

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* See footnote, page 78, *ante*.

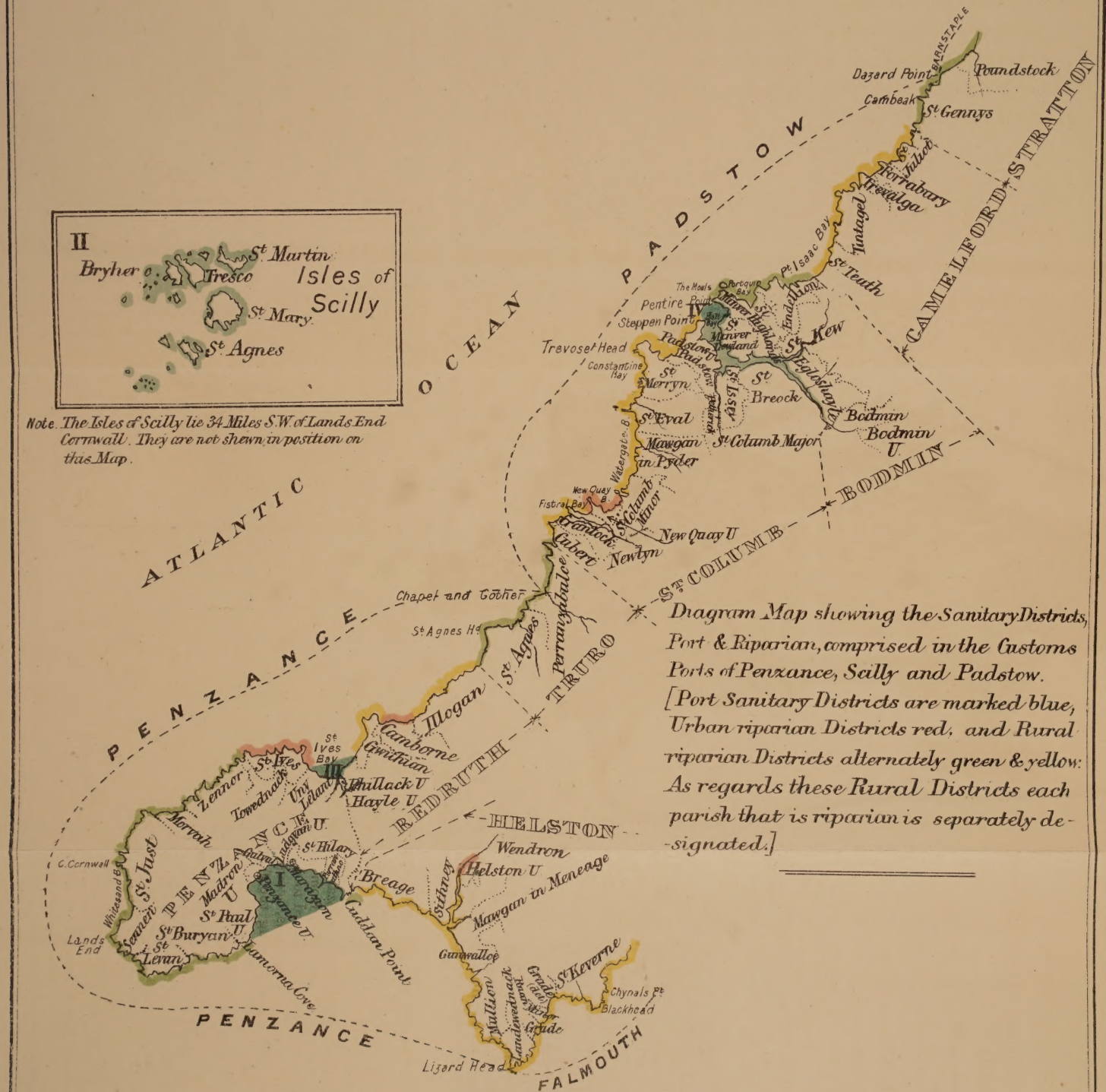
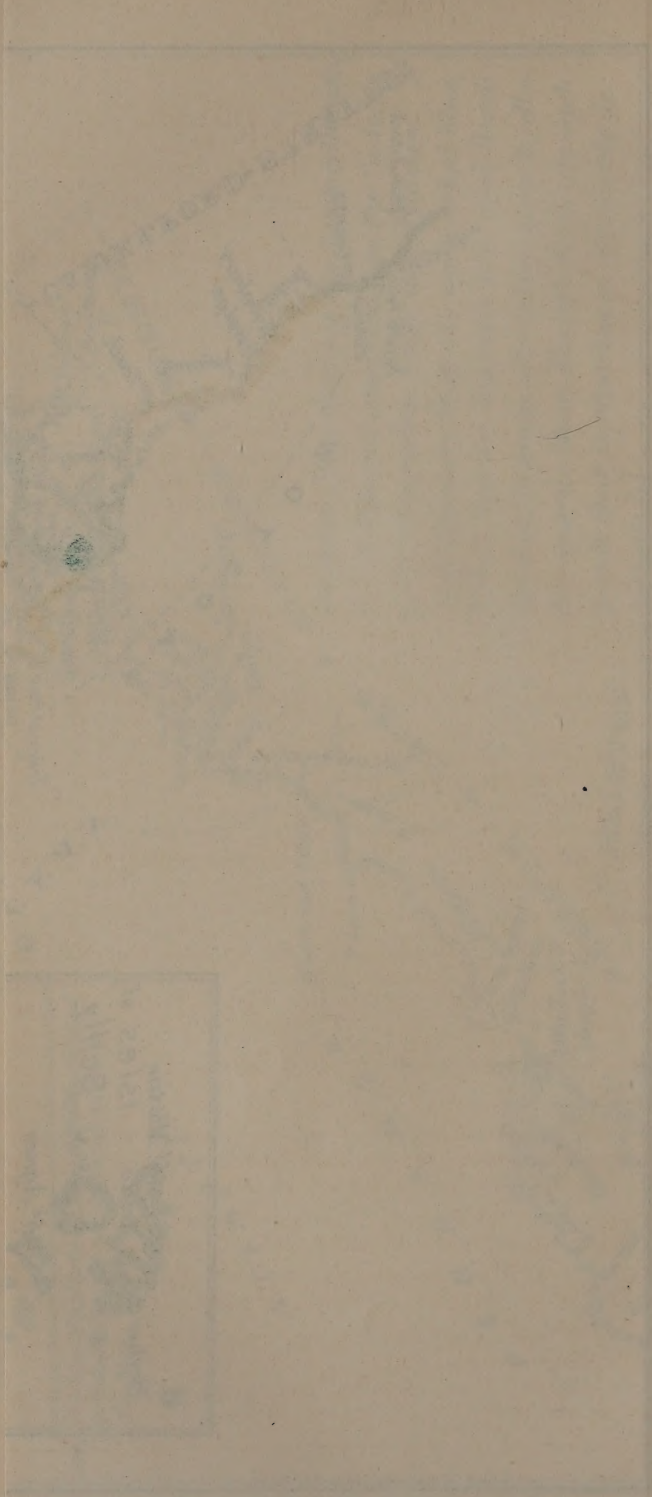


Diagram Map showing the Sanitary Districts, Port & Riparian, comprised in the Customs Ports of Penzance, Scilly and Padstow. [Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural Districts each parish that is riparian is separately de-signated.]

I Penzance II Isles of Scilly III Hayle IV Padstow.
Port Sanitary Districts.

Wyman & Sons, Ltd, Lith, 6324.9.94



Penzance Port Sanitary District.

[Penzance Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* April 6th, 1893.

Date of Order *temporarily* constituting Port Sanitary District: March 15th, 1881.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Penzance acting by the "Council." It exercises port functions in waters abutting upon the Urban Sanitary Districts of Penzance, Ludgvan, Madron, and Paul, and upon the Rural Sanitary District of Penzance.

2. *Limits of Jurisdiction :—*

So much of the Port of Penzance as "lies within an imaginary "straight line drawn from Cuddan Point on the east to Lamorna "Cove on the west; together with the waters,"* &c., &c.
These limits are considered to be satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Penzance Urban Sanitary District—The whole.
Ludgvan Urban Sanitary District— „
Madron Urban Sanitary District— „
Paul Urban Sanitary District— „
Penzance Rural Sanitary District. Parishes :—Gulval, Marazion, Perranuthno, St. Hilary.

4. *Apportionment of Expenses :—*

The Urban Sanitary Districts, with the exception of Paul, in proportion to their rateable value and the Rural Sanitary District according to the rateable value of the abutting parishes.

5. *General Character and Efficiency of Administration :—*

Very fair.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign.—Ports of *France*, *Norway*, *Sweden*, and *Russia*, Denmark, Channel Islands, and America, Hamburg, Brussels.

Coastwise.—*Bristol*, *London*, *Plymouth*, and *Torquay*, *Isles of Scilly*, Cardiff, Swansea, Liverpool, Newcastle, Perth, Dublin.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports.—Timber, ice, potatoes and grain, coal, limestone, manure, and salt.

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* See footnote, page 89, *ante*.

Exports.—Fish to Mediterranean, tin, china clay.
Rags from Waterford.
Passengers.—Communication with Scilly Isles about three times weekly, also with London and Bristol.
There is a very large fishing fleet belonging to Penzance, Mousehole, and Newlyn.
No immigrants or transmigrants.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	3	560	3	863	4	819
	Sailing	19	4,530	24	5,210	34	7,508
	Fishing	—	—	3	196	5	185
Total Foreign		22	5,090	30	6,269	43	8,512
*Coastwise.	Steamers	916	116,096	821	115,320	515	96,552
	Sailing					362	28,880
	Fishing	—	—	—	—	—	—
Total Coastwise		916	116,096	821	115,320	877	125,432

* The figures given include Porthleven in Helston district, about two vessels a week. The proportion of sailing and steam in 1890 and 1891, would be about the same as in 1892. No record kept of coastwise fishing vessels. They are extremely numerous.

Penzance.—Foreign trade inwards. The following is an analysis of the figures given above for 1892 :—

13 small sailing vessels from France with oats and potatoes.
10 sailing vessels from Norway, Sweden, and Russia with wood.
5 sailing vessels from North and South America with wheat.
6 sailing vessels from Norway with ice.
5 sailing vessels, French fishing boats, with fresh fish.
4 steamers from France and Holland in ballast.

Foreign trade outwards, 1892 :—

6 steamers already partially loaded at London, Middlesboro', and Newcastle called here to load fish for Italy.
12 sailing and 1 steamer to France in ballast.
2 sailing to Jersey in ballast.
3 sailing to America in ballast.
8 sailing vessels to Norway, Sweden, and Denmark, and Russia in ballast.

Coasting trade :—

Regular arrivals and sailings of steamers with general cargo between Penzance, Bristol, London, Plymouth, and Torquay about three times a week, and between Scilly and Penzance about three times a week.

Besides regular steamers the principal inwards trade is in coal by steam and sailing vessels from South Wales, and in less degree from Liverpool, Newcastle, Troon, &c. There are also brought here rags from Waterford; bricks from Bridgwater ; cement from Rochester ; slate from Padstow ; potatoes from Montrose, Perth, Galway, Boston, Dublin, &c. ; limestone from Plymouth ; salt from Gloucester ; wheat from Liverpool and Plymouth, &c. ;

oats from Waterford, Dublin, Cork; manure from London, Bristol, &c.

There are also taken from here coastwise china clay to Liverpool; fish to Bristol and London; ore to South Wales, &c.; but the outwards trade with cargo is small.

Newlyn.—Of vessels going to Newlyn 75 per cent. are in ballast, many of which have discharged cargo at Penzance or Porthleven. They load macadam at Newlyn which goes to London, Bristol, Plymouth, &c. The small trade inwards is principally coal from South Wales ports; cement from Rochester.

Marazion.—A few cargoes of coal are brought from Liverpool and South Wales; manure from London, &c.

Mousehole.—A few cargoes of coal are brought from Liverpool and South Wales, and salt from Mevagissey.

9. *Inland Water Communication:*—

None whatever.

10. *Lines of Railway Conveying Goods from Port:*—

Great Western Railway.

11. *Medical Officer of Health:* George B. Millet.

Qualifications: M.R.C.S., L.R.C.P. Salary, 20*l.* per annum, with repayment. Also acts as Medical Officer of Health to Penzance Urban District.

Character and efficiency of work done by Medical Officer of Health:—

Mr. Millet is unfortunately prevented by physical incapacity from taking that active share in the inspection of vessels which he would wish.

12. *Inspector of Nuisances:* N. C. Whear.

No sanitary certificate. Salary, 5*l.* per annum with repayment. Mr. Whear also acts as Inspector of Nuisances to the Penzance Urban District.

Character and efficiency of work done by Inspector of Nuisances:—

This Inspector is an energetic and able officer.

13. *Nuisances:*—

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	3	—	—
		Sailing	8	2	2
		Fishing	16	3	3
		Total Foreign	27	5	5
	Coastwise.	Steamers	8	1	1
		Sailing	20	3	3
		Fishing	160	8	8
		Total Coastwise	188	12	12

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers - - -	1	—	—
		Sailing - - -	10	1	1
		Fishing - - -	12	4	4
		Total Foreign -	23	5	5
	Coastwise.	Steamers - - -	11	3	3
		Sailing - - -	28	2	2
		Fishing - - -	134	4	4
		Total Coastwise -	173	9	9
1892	Foreign	Steamers - - -	1	—	—
		Sailing - - -	6	1	1
		Fishing - - -	3	—	—
		Total Foreign -	10	1	1
	Coastwise.	Steamers - - -	6	1	1
		Sailing - - -	19	—	—
		Fishing - - -	181	6	6
		Total Coastwise -	206	7	7

14. *Isolation Hospital :—*

The Urban Sanitary Authority possesses a house which does duty as an Infectious Diseases Hospital. As this house is closely surrounded by other dwellings it is not proposed to make use of it for cholera. For this disease, a double walled tent has been purchased and fitted with a good wooden floor. It would accommodate about three patients of the same sex. This tent would, if necessary, be erected in a well-isolated position outside the town. Sufferers would be conveyed thither in an ambulance which is kept at the quay. The accommodation might easily be extended by the provision of more tents. The water supply is to be laid on near the site. Excrement would either be mixed with inflammable material and burnt, or buried in the ground. Laundry operations would have to be carried on in the open air.

15. *Disinfecting Apparatus :—*

The Urban Sanitary Authority possesses one of Dr. Rogers's hot air apparatus which is kept at the Hospital. The apparatus is fitted with wheels, and can be moved from place to place articles are kept in the chamber at a temperature of 250° F. for three or four hours, according to circumstances.

16. *Mortuary :—*

There is a mortuary at the cemetery, which is not far removed from the spot where the hospital tent would be pitched.

17. *Regulations under Section* 125 *Public Health Act,* 1875 :—

None made.

18. *Infectious Disease (Notification) Act*, 1889:—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

"In the roadstead within half a mile of the pier head of Penzance harbour." All foreign vessels whether bound for Penzance, Newlyn, or Mousehole, are supposed to be boarded at this station. Coasters are only occasionally inspected by the Customs.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

The Customs Officer detains vessels by day at Penzance. The Coastguard by night.

At Newlyn Mousehole and Marazion the Coastguards detain both by day and night.

Fresh copies of "Quarantine Regulations" have been issued to the Pilots by the Sub-Commissioners. But very few vessels entering this port are subject to compulsory pilotage, so that special instructions to Pilots would only be a very partial preventive here.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health:—

The detaining official would communicate with the Medical Officer of Health in the quickest manner which the time and place permitted.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships:—

No boat belonging to Port Sanitary Authority.

e. Mooring Station:—

Guavas Lake was the position appointed in 1883, and this is the place to which an infected vessel would, if possible, be now sent. Under, however, certain conditions of wind and weather anchorage here would be dangerous. The vessel would then have to be in the best place which the circumstances would permit of, and it is possible that she might have to make for the open sea. The Customs Officer was anxious for the Port Sanitary Authority to fix alternate places in order that, as he said, he might be relieved of the responsibility of ordering the vessel to a dangerous position, but the Inspector pointed out to him that he alone was responsible for the position to which the vessel was sent prior to her inspection by the Medical Officer of Health.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Customs Officer would detain vessels under either circumstance and communicate at once with the Medical Officer of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

All persons will now be inspected under either circumstance.

h. Address Book :—

None kept.

i. Special Isolation Provision for Cholera :—

Hospital tent already referred to.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Suspected persons would either have to be detained on board vessel or placed in the Urban Hospital.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

No properly equipped boat has been provided.
There is ambulance provision for conveyance from boat to tent.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) *Clothes* Destroyed.
(*b.*) *Ship* Fumigated with sulphurous acid.
(*c.*) *Goods.* No proper provision.

n. Arrangements made as to the disposal of the Dead :—

A corpse would be buried either at sea or on shore, according as whether death took place on board ship or in hospital.

o. Action as to Water Supply of Vessels from Infected Ports :—

Water tanks to be emptied and a fresh supply taken in.

p. Action as to Bilges of Vessels from Infected Ports —

Bilge water to be pumped out and bilges washed and disinfected.

Final Conference with the Penzance Port Sanitary Authority was held on May 13th, 1893, when formal recommendations were made with regard to the following matters :—

1. The adoption of the Infectious Disease (Notification) Act, 1889.
2. The steps to be taken beforehand to secure, in the event of any widespread prevalence of cholera in Europe, the medical inspection of vessels entering the port by night as well as by day.

Action taken by the Port Sanitary Authority since Inspection.

The Infectious Disease (Notification) Act, 1889, adopted May 24th, 1893. [Letter from Port Sanitary Authority, dated July 12th, 1893.]

Medical inspection of all vessels from "infected ports" carried out, whether vessels come from foreign or coastwise. [Annual report of Port Medical Officer of Health for 1893.]

Isles of Scilly Port Sanitary District.

[Scilly Customs Port.]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* April 11th and 12th, 1893.

Date of Order *permanently* constituting Port Sanitary District: August 4th, 1888.

1. *Constitution of Port Sanitary Authority :—*

Under section 49 of the Local Government Act, 1888—a provisional order relating to these islands was made. This order was confirmed by an Act, dated August 4th, 1890. The order came into force April 1st, 1891. The inhabited portions of the Isles consist of five separate parishes, for which overseers are appointed, and each of these parishes is a contributory place for the purpose of the Public Health Act, 1875. A "Council "of the Isles of Scilly" is established, consisting of a chairman, Mr. Dorrien-Smith, four aldermen, and 20 councillors—the council has, for public health purposes, the powers of a Rural Sanitary Authority for all the inhabited islands, and for St. Mary's Island, it has in addition, certain powers of an Urban Sanitary Authority. The Port Sanitary Authority is a sub-committee of the council, consisting of seven members, representatives from each of the inhabited islands.

The Scilly Islands are situated about 25 miles west by south of the Land's End, and in latitude 49 degrees 57 minutes north; and longitude 6 degrees 43 minutes west. Their distance from Penzance, the port of embarkation of ordinary visitors, is about 42 miles. A commodious screw steamer makes the voyage from Penzance to Scilly thrice a week during the summer months, and twice a week during the winter; the passage usually occupying about three and a half hours. The acreage and population of the principal islands are given in the following table:—

	Acreage.	Population.								
		1801.	1811.	1821.	1831.	1841.	1851.	1861.	1871.	1881.
St. Mary	A. R. P. 1,527 1 23	944	1,100	1,400	1,311	1,545	1,668	1,532	1,368	1,290
Tresco	696 1 19	936	465	480	470	430	416	399	266	325
St. Martin's	514 3 4	207	235	280	230	214	211	185	158	175
St. Agnes	312 2 9	219	244	282	289	243	204	200	179	148
Bryher	268 2 37½	107	111	140	128	121	118	115	104	103
Sampson	82 0 18½		32	34	37	29	10	None	—	—
	3,401 3 31	The total population of the islands at the present time, 1893, is supposed to be about 1,857.								
18 uninhabited isles	205 3 10									
	3,607 3 1									

The approximate acreage of the isles and islets is as follows:—St. Helen's, 80; Teân, 70; White Island, 50; Annet, 50; Great Arthur, 30; Great Ganilly, 20; Great Gannick, 18; Crebawithan, 22; Melledgan, 20; Gorregan, 20; Rosevean, 16; Minewithan, 15; Norenour, 13; Mincarlo, 12; Rosevear, 12; Camperdeney, 10; Guahall or Gweel, 10; Northwithiel, 9; Toll's Island, 7; White Island near Sampson, 7; Little Arthur, 7; Pednathise 7; Inaswiggick, 8; Little Ganilly, 6; Little Gannick, 5; Ragged Island, 5; Innisvouls, 4; Round Island, 3; Maiden Bower, 3; Penbrose, 2; Great Carbinnack, 2; and Scilly, from which the archipelago is said to derive its name, one acre. Eight or nine of these are so covered with rocks as to be wholly incapable of cultivation.

The Isles of Scilly were at one time an important Port of Call, but since the introduction of steam and telegraphy, vessels have called at Falmouth and Plymouth instead. At St. Mary's—the most important Island—extensive ship building and repairing operations took place, but this trade is now dead. Owing to this and other reasons, the inhabitants of these Islands became sunk in poverty, but at the initiative and example of the beneficent Lord Proprietor (who leases them from the Duchy of Cornwall) flowers and potato culture was introduced, and thus a livelihood for the Scillonians obtained. Mr. Dorrien-Smith is now about to start tomato cultivation on a large scale, and if it succeeds, his example will no doubt be followed by the Islanders. It is not unlikely that these Islands may before long become an important health resort. Attention has recently been drawn to their advantages in this respect by an article in the Lancet by Dr. Macklin, Medical Officer of Health to the Islands, and a graphic description of their enchantments from the pen of Mr. Walter Besant has found a wide circulation in the shape of the novel "Armorel of Lyonesse."

2. *Limits of Jurisdiction :—*

Art. xiv. of the the Provisional Order enacts :—For the purposes of section 110 of the Public Health Act, 1875, as amended by section 2 of the Public Health Act (Ships, &c.) Act 1885, any ship, vessel or boat, lying in any river, harbour, or other water, within the Customs Port of Scilly, for the time being, shall be deemed to be within the district of the Council, or such Rural Sanitary Authority aforesaid.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

The Islands only.

4. *Apportionment of Expenses :—*

The cost of Port Sanitary administration is defrayed by the general expenses of the Council.

5. *General Character and Efficiency of Administration :—*

The Council has, considering the peculiar circumstances under which it works, done well. It was at the time of inspection fitting up a building for use as a hospital for infectious disease, and evinced a desire to take all necessary precautions.

The arrangements existing for dealing with sea-borne cholera, are on the whole satisfactory. Any case ariving would probably be properly dealt with by the authority—as far as the arrangements would permit. The fact that the islands are united by telephonic communication, renders the transmission of messages to the Medical Officer of Health peculiarly easy.

The most probable danger as regards these islands, lies in the fact that, during the fishing season, a very large number of fishermen from all parts, congregate there, and that during this period, there is more frequent communication with such places as Newlyn and Mousehole in the Penzance Port Sanitary District.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are printed in *italics*):—

FOREIGN.—Ports of the Mediterranean and Black Seas and North and South America, Spain, and various Ports on the North and West Coasts of France, such as *Fécamp, Boulogne, Bordeaux, Nantes, Havre*, &c.

COASTWISE.—Almost exclusively from *Penzance* and Ports of South Wales. During the fishing season, a steamer runs as required between Plymouth and Scilly. Foreign or coasting vessels sometimes put into the "Roads" windbound or calling for orders.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports.—General cargoes from Penzance and coal from South Wales.

Exports Coastwise.—Flowers and early potatoes, &c., and during the fishing season the fleet bring their fish to St. Mary's, and are then taken by steamer to Penzance and Plymouth.

Passengers.—A steamer from Penzance about three times weekly. During the fishing season a large number of fishermen frequent the Islands.

8. *Amount of Shipping Inwards during three years*, 1890-91-92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	10	9,586	8	7,668	7	6,365
	Sailing	19	3,145	9	2,893	7	1,952
	Fishing	5	369	7	477	3	223
Total Foreign		34	13,100	24	11,038	17	8,540
Coastwise.	Steamers	194	14,202	174	10,051	193	11,094
	Sailing	30	1,917	29	1,897	33	2,179
	Fishing	—	—	—	—	—	—
Total Coastwise		224	16,119	203	11,948	226	13,273

Vessels windbound from foreign almost invariably carry cargoes of pitwood; those for orders or for coal have a variety of cargoes, as fruit, grain, general, ore, wood, sugar, divi divi, fustil, phosphate, &c., &c.

The customs officer was unable to state the number and tonnage of fishing vessels arriving coastwise or with fish from sea, as they lie off the pier, discharge their fish, and proceed to sea again, consequently no record of them has ever been kept. Windbound vessels occasionally lie at New Grimsby, Tresco; in such cases the officer in charge of the coastguards visits them for quarantine purposes, should the customs officer have been previously unable to do so, but the latter visits them as early as possible afterwards.

Coasting vessels do not go direct to the other islands to discharge (except in rare cases to Tresco), but come first to St. Mary's.

Strange vessels do not enter during the night on account of the dangerous character of the neighbourhood.

The Coastguard Officers are instructed to communicate with the Principal Customs Officer in any case of difficulty or doubt before allowing any person to land.

9. *Inland Water Communication :—*

There is a coastguard on every inhabited island, and he will keep a careful look-out on all vessels.

10. *Lines of Railway conveying Goods from Port :—*

All exports go to Penzance or Plymouth by steamers.

11. *Medical Officer of Health :* Thomas Thornton Macklin.

Qualifications : M.B., L.F.P.S., Glasgow, D.P.H., Cambridge.

Salary, 2*l.* 2*s.* 0*d.*, which sum is the inclusive remuneration Dr. Macklin receives for his services as Medical Officer of Health to the Isles of Scilly. He, however, receives 1*l.* 1*s.* 0*d.* for inspecting vessels. No repayment.

Character and efficiency of work done by Medical Officer of Health :—Dr. Macklin is an active and intelligent officer.

12. *Inspector of Nuisances :—*

No Inspector had, at the date of inspection, been appointed.

It is proposed upon the decease or resignation of the present Police Constable to the Islands, to combine, if possible, the offices of Sanitary Inspector, School Attendance Officer, and Policeman, and to offer a salary which will remunerate the officer for the multifarious duties.

13. *Nuisances :—*

Nuisances on board ship had not been dealt with prior to date of inspection.

14. *Isolation Hospital :—*

A buildin which is situated just off the pier, was at time of inspection being fitted up as a hospital. It will, when finished, provide accommodation for four patients, but the provision could not well be extended. If more were required, tents would have to be provided. The water supply is as

usual from stored rain-water. Drains into sea below low-water mark. Excrement disposal into sea after disinfection There is a boiler near the building which can be used for laundry purposes. Although the position in not in every way desirable, with proper precautions it may be used for infectious diseases, other than small-pox.

15. *Disinfecting Apparatus* :—
None.

16. *Mortuary* :—
None.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—
None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—
There is but one medical man in the Scilly Islands, so that all disease must come to his knowledge.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—
In "the roads." These roads are formed by the Islands which encircle them. All vessels anchor here as a rule first, whether bound for St. Mary's or the other inhabited Islands.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—
The Officer of Customs will detain any infected vessels, or any vessel from an infected Port, and at the other Islands the Coastguard will detain.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—
The Customs will communicate at once with the Medical Officer of Health, and the Coastguard both with the Customs and the Medical Officer of Health.
There is *telephonic* communication between each of the Islands.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—
The Medical Officer of Health would either go out on the Customs' boat, or use the authority vested in him, to hire a boat for the purpose.

e. Mooring Station :—
The mooring station was fixed, at the time of the Inspector's visit, at the eastern side of the southern end of the Isle of Sampson. This is a well-isolated position, where there is plenty of water, and, it is stated, vessels could ride there under almost any state of the weather.

f. Inspection of Vessels ("infected" or from "infected port") :—
Vessels under either of these circumstances will now be inspected.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

The Inspector explained all the details with regard to this to the Medical Officer of Health.

h. Address Book:—

None obtained.

i. Special Isolation Provision for Cholera:—

In the hospital referred to in s. 14.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

If the Hospital were full, these cases would either have to be retained on board or treated in a tent.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

If necessary a boat or barge drawn by a steam tug would be used. The Inspector advised a properly equipped litter as an addition.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods:—*

(*a.*) *Clothes* to be destroyed.
(*b.*) *Ships* to be fumigated with sulphurous acid.
(*c.*) *Goods.* No provision made.

n. Arrangements made as to the disposal of the Dead:—

If a death took place on board a ship, the corpse would be duly weighted and taken out into the Atlantic to some spot which the trawlers do not frequent. If death took place in hospital, the corpse would be buried on shore.

o. Action as to Water Supply of Vessels from Infected Ports:—

The water would be changed if possible; but at the time of the Inspector visit the Islands were suffering from the effect of a prolonged drought, and their rain water was becoming exhausted.

p. Action as to Bilges of Vessels from Infected Ports:—

Bilges will be pumped out and disinfected.

No *final conference* was held in the case of this Port Sanitary District.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

No information received. [September 1895.]

Hayle Port Sanitary District.

[Penzance Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* April 7th, 1893.

Date of Order *temporarily* constituting Port Sanitary District: 16th March 1882.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is the "Hayle Local Board."

It exercises port functions in waters abutting upon the Hayle and Phillack Urban Sanitary Districts and upon the Penzance Rural Sanitary District.

2. *Limits of Jurisdiction:—*

"So much of the Customs Port of Penzance as lies within an imaginary straight line drawn from Carrack Gladdon Point on the West side of Saint Ives Bay, to the eastern end of the Black Cliff; on the eastern side of the Bay; together with the waters," * &c.

These limits are as satisfactory as is possible.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Hayle Urban Sanitary District.
Phillack „ „ „
Penzance Rural „ „ Parish:—Lelant.

4. *Apportionment of Expenses:—*

The expenses of administration are wholly borne by the Hayle Local Board.

5. *General Character and Efficiency of Administration:—*

Very indifferent up to the date of inspection.

6. *Ports from whence Ships arrive:—*

(Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

FOREIGN.—*Hamburg*, *Guernsey*, *Konigsberg*, Ports of Norway and Sweden.

COASTWISE.—*Cardiff*, *Swansea*, *Newport*, *Porthcawl*, *Bristol*, *Liverpool*, *Runcorn*, *Greenock*, *Ayr*, *Cork*, *Waterford*, Falmouth, Plymouth, Whitehaven, *London*, Newcastle, Middlesbrough.

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* See footnote, page 89, *ante*.

7. *Character of Trade :—*

(Imports, exports, rags, passengers, immigrants, ransmigrants, &c.) :—

Imports.—Coals, timber, grain, iron, potatoes, collodion.
Exports.—Flour, machinery, explosives.
No rags, passengers, immigrants, or transmigrants.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	3	1,003	3	669	1	38
	Sailing	7	1,215	4	492	5	815
	Fishing	—	—	—	—	—	—
Total Foreign		10	2,218	7	1,161	6	853
Coastwise.	Steamers	409	60,289	376	52,721	406	61,591
	Sailing	292	23,997	228	18,357	262	21,411
	Fishing	—	—	—	—	—	—
Total Coastwise		701	84,286	604	71,078	668	83,002

9. *Inland Water Communication :—*

None.

10. *Lines of Railway Conveying Goods from Port :—*

Great Western Railway.

11. *Medical Officer of Health :* James Mudge.

Qualifications :—M.R.C.S., L.S.A. Salary, 7*l.* per annum, without repayment. Also holds appointments of Medical Officer of Health for Hayle Urban District and of Medical Officer of Health for Phillack Urban District.

Character and efficiency of work done by Medical Officer of Health :—

It may be taken that no systematic inspection, or even sanitary supervision, of vessels, is undertaken by the Medical Officer of Health at this Port.

12. *Inspector of Nuisances :* G. A. Eustice.

Qualifications :—Engineer. Salary, none. Is also Inspector of Nuisances for the Hayle Urban Sanitary District and Surveyor to Hayle and Phillack Local Board.

Character and efficiency of work done by Inspector of Nuisances :—

This inspector had but recently been appointed at the date of inspection.

13. *Nuisances :—*

Nuisances have apparently not been dealt with hitherto by this Port Sanitary Authority.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.	Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign — Steamers			
	Foreign — Sailing			
	Foreign — Fishing			
	Total Foreign			
	Coastwise — Steamers			
	Coastwise — Sailing			
	Coastwise — Fishing			
	Total Coastwise			
1891	Foreign — Steamers			
	Foreign — Sailing			
	Foreign — Fishing			
	Total Foreign			
	Coastwise — Steamers			
	Coastwise — Sailing			
	Coastwise — Fishing			
	Total Coastwise			
1892	Foreign — Steamers			
	Foreign — Sailing			
	Foreign — Fishing			
	Total Foreign			
	Coastwise — Steamers			
	Coastwise — Sailing			
	Coastwise — Fishing			
	Total Coastwise			

Some three or four vessels and two fishing boats have been inspected during each of the three years, but no memoranda have been kept.

14. *Isolation Hospital:—*

The Port Sanitary Authority possesses no isolation provision whatever. Some time ago plans were drawn up and duly approved, for the erection of a hospital by the Hayle and Phillack Local Board, but, a difference having arisen as to the proportions of the cost each authority should bear, the building has never been erected.

The Port Sanitary Authority has obtained the consent of the Phillack Local Board to erect a hospital on the sand dunes in their district. The firm of Messrs. Harvey (large machinery manufacturers) have undertaken to erect a wooden hospital in the course of a few hours, when cholera presents itself at Hayle. The Sanitary Authority urge that their foreign trade is so small that they regard this prospective provision as adequate. There are some old vessels in the Harbour, one of which would probably be used if necessary.

15. *Disinfecting Apparatus :—*

None possessed by Hayle Port Sanitary Authority or by the Urban Sanitary Authority.

16. *Mortuary :—*

None.

17. *Regulations under Section* 125 *Public Health Act,* 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act,* 1889 :—

This Act is in force in Hayle Urban District, adopted September 6th, 1892, and practically the limits of the Port and Urban jurisdiction are the same.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

"The inside of Hayle Harbour after passing the narrow passage."

This being a tidal harbour, vessels can only enter on the flood. The Customs Officer boards all foreign vessels by day, and at night the Harbour Master calls the Customs if necessary.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Officer of Customs seems fully alert to the importance of keeping a careful watch, and he will detain any vessels about which he is at all suspicious.

The Pilots have had no special instructions under the Cholera Orders, but they have been reminded to put the usual quarantine questions.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

Officials detaining vessel will communicate by messenger with the Port Medical Officer of Health.

d. Means provided, or facilities given, for conveyance or Medical Officer of Health to Ships :—

The Medical Officer of Health has authority from the Port Sanitary Authority to hire a boat if necessary, and he can as a rule make use of the Custom's boat.

e. Mooring Station :—

Below the Dynamite Station.

This is the best station that can be arranged. The harbour and and its approaches are very shallow, and a large vessel once over the bar would have to remain there for some time. There is but 6 feet of water in the channel at low tide.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health will inspect vessels under both circumstances.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

All will be duly examined.

h. Address Book:—

None.

i. Special Isolation Provision for Cholera:—

None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

None made.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

There is a hand litter kept at the Ironworks which it was stated could be used by the Port Sanitary Authority, and the loan of a boat could also, it is said, be easily obtained. The Mooring Station is a very short distance from the spot on which it is proposed to erect a hospital.

m. Arrangements made for Disinfection of (*a*) *Clothes* (*b*) *Ship*, (*c*) *Goods:—*

(*a.*) Clothes to be destroyed.
(*b.*) Ships to be fumigated with sulphurous acid.
(*c.*) No provision made for disinfection of goods.

n. Arrangements made as to the Disposal of the Dead:—

If a death occurred on board a vessel, the corpse would, if possible, be taken out to sea with due precautions. If the death took place on shore the body would be buried in Phillack churchyard.

o. Action as to Water Supply of Vessels from Infected Ports:—

The vessel would be ordered to have her drinking water discharged before entering the harbour, and to take on board a fresh supply, for which "a small recognition fee" is charged.

p. Action as to Bilges of Vessels from Infected Ports:—

Would be pumped out, and disinfected with "Jeye's fluid."

Final Conference with the Hayle Port Sanitary Authority was held on May 15th, 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of sufficient and suitable hospital accommodation.
2. The necessity for the regular and thorough inspection of vessels entering the port.
3. The provision of suitable mortuary accommodation.
4. The steps to be taken beforehand to ensure, in the event of any marked extension of cholera in Europe, the medical inspection of all vessels entering the port, whether by night or by day.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. The Port Sanitary Authority procured a suitable site, upon which it proposed to erect tents in case of need for the isolation of cases of infectious disease.
2. The inspection of vessels by the Port Inspector of Nuisances regularly carried out.
3. Arrangements made for securing the medical inspection, whether by night or by day, of all vessels from foreign or from infected ports. [Letter from Port Sanitary Authority, dated May 24th, 1893.]

NEWQUAY URBAN RIPARIAN SANITARY DISTRICT.

[Padstow Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* July 2nd, 1894.

This Riparian District is under the jurisdiction of the Newquay Urban Sanitary Authority. The coastline extends from the Boundary Stone on Fistral Beach on the west to "Hearncliffe" (a point in a small bay to the west of Talcarne Point) on the west.

Shipping Trade:—

No foreign trade.

Coastwise.—With coal ports generally, Wales, Glasgow, Liverpool, Bristol Channel ports occasionally, with ports on south and east coasts of England.

Imports.—Coal and chemical manure.

Exports.—China clay, iron, china stone.

Amount of Shipping Inwards during Three Years, 1890-91-92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	—	—	—	—	—	—
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	—	—	—	—	—	—
Coastwise { Steamers	—	—	—	—	—	—
Coastwise { Sailing	116	6,993	135	7,711	104	5,617
Coastwise { Fishing			No record kept.			
Total Coastwise	116	6,993	135	7,711	104	5,617

Goods are conveyed from the district, by the Great Western Railway.

Chief Facts reported as regards Administration.—Neither the Urban Medical Officer of Health (Arthur Hardwick, M.D., D.P.H.) nor the Urban Inspector of Nuisances (W. B. Buller) had, prior to the inspection, carried out any riparian duties.

The Sanitary Authority does not possess an isolation hospital, a disinfecting apparatus, or a mortuary.

The Infectious Disease (Notification) Act, 1889, was adopted May 1891, when measles was added to the list of notifiable diseases. No regulations have been made by the Sanitary Authority, under section 125 of the Public Health Act, 1875.

Arrangements made to carry out the Board's Cholera Orders.

a. Customs Boarding Station or Stations.—The Customs Boarding Station is "in the harbour."

The only vessels running into Newquay, are small sailing vessels employed in the coasting trade, and fishing boats. The vessels are not boarded systematically on arrival, but generally when alongside the quay.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots.—The Coastguard act for Her Majesty's Customs.

There appear to be no definite arrangements of any sort for the detention of vessels.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—None made.

d. Means provided, or facilities given for conveyance of Medical Officer of Health to Ships.—None.

e. Mooring Station.—None appointed. No ships from foreign.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would inspect all vessels, "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would examine all persons on board vessels, "infected" or from "infected ports."

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None.

l. Means provided for transfer of infected Persons from Ship to Hospital.—None.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods.*—

(*a.*) Clothes—no arrangements made.

(*b.*) Ship—by sulphur fumigation, and washing with Condy's fluid, carbolic acid solution 1 in 20, or solution of corrosive sublimate 1 in 1,000.

(*c.*) Goods—no arrangements made.

n. Arrangements as to the disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—The Medical Officer of Health stated that he would cause all water tanks to be emptied and cleansed, and that fresh water would be supplied by the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports.—The Medical Officer of Health stated that he would have the bilges of all vessels from "infected ports" disinfected with solution of corrosive sublimate 1 in 1,000, Condy's fluid, or carbolic acid solution 1 in 20.

Final Conference with the Newquay Urban Riparian Sanitary Authority was held on November 1st, 1894, when formal recommendations were made with regard to the following matters:—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisances and of unwholesome conditions generally.
2. The special duties and obligations, devolving upon the Sanitary Authority under the cholera orders and regulations of the Local Government Board.
3. The provision of suitable isolation accommodation.

Action taken by the Urban Riparian Sanitary Authority since Inspection.

The New Quay Urban Sanitary Authority adopted among others the recommendations of a special committee to the effect that the special attention of the (newly-appointed) Inspector of Nuisances be called to the regular inspection of vessels entering the Harbour, and that a supply of Jeye's disinfectant should be kept in stock to be used at the discretion of the Inspector of Nuisances. [Letter from the Sanitary Authority, dated 4th December 1894.]

Padstow Port Sanitary District.

[Padstow Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* March 23rd, 1893.

Date of Order *permanently* constituting Port Sanitary District: January 10th, 1887.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Padstow Port Sanitary Authority," and consists of seven members, composed of representatives of the Urban Sanitary District of Padstow and the Rural Sanitary Districts of Bodmin and St. Columb, as follows:—

Urban Sanitary Authority for the Local Government District of Padstow, one member.

Rural Sanitary Authority of Bodmin, three members.

Rural Sanitary Authority of St. Columb, three members.

It exercises port functions in waters abutting upon the Urban Sanitary District of Padstow and upon portions of the Rural Sanitary Districts of Bodmin and St. Columb.

2. *Limits of Jurisdiction:—*

"So much of the said Port as lies above an imaginary straight line drawn across the mouth of the River Camel from Pentire Point to Stepper Point, together with the waters," &c.*

These limits are considered to be quite satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Padstow Urban Sanitary District.

Bodmin Rural Sanitary District. Parishes:—St. Minver Lowlands, St. Minver Highlands, St. Kew, Egloshayle.

St. Columb Rural Sanitary District. Parishes:—St. Breock, St. Issey, Padstow extra-Urban, Little Petherick.

4. *Apportionment of Expenses:—*

The constituent authorities contribute to the expenses of the Port Sanitary Authority in the following proportions:—

Padstow Urban Sanitary Authority, one seventh.

Bodmin Rural Sanitary Authority, three sevenths.

St. Columb Rural Sanitary Authority, three sevenths.

5. *General Character and Efficiency of Administration:—*

On the whole, satisfactory.

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* See footnote, page 89, *ante*.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*):—

FOREIGN.—*Norwegian* and *Swedish* ports, ports between River Elbe and Brest. Spanish ports, ports in Mediterranean and United States.

COASTWISE.—*Bristol Channel* and *River Mersey* ports, ports of South and East Coast of England, including London, and South-West Coast of Scotland. Occasional vessels from Ireland.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Imports.—Coal, manure, and timber.

Exports.—Granite and clay.

Passengers from Bristol and Swansea by fortnightly steamers.

No rags, immigrants, or transmigrants.

8. *Amount of Shipping Inwards during three years,* 1890–91–92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	2	731	—	—	1	455
	Sailing	5	883	2	452	6	773
	Fishing	Nil.					
Total Foreign		7	1,614	2	452	7	1,228
Coastwise	Steamers	48	3,808	43	3,590	43	3,073
	Sailing	373	24,965	357	24,066	385	25,347
	Fishing	?	?	?	?	?	?
Total Coastwise		421	28,773	400	27,656	428	28,420

9. *Inland Water Communication:*—

None.

10. *Lines of Railway conveying Goods from Port:*—

Great Western Railway runs to Wadebridge, but there is no direct railway communication with Padstow.

11. *Medical Officer of Health:* H. F. Marley.

Qualifications:—M.R.C.S., L.R.C.P., L.S.A. Salary, 5*l.* per annum; no repayment from public funds. Mr. Marley also holds the appointment of Medical Officer of Health of the Padstow Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health:—At the time of the inspection the Medical Officer was ill, and consequently there was no opportunity of judging his qualifications for the post he occupies.

12. *Inspector of Nuisances:* B. M. Harvey.

No sanitary certificate. Salary, 10*l.* per annum; with repayment. Mr. Harvey holds no other public offices.

Character and efficiency of work done by Inspector of Nuisances :—

This inspector is a shipowner, and consequently understands shipping matters, and has apparently some local influence.

13. *Nuisances :—*

Nuisances are on the whole apparently fairly well attended to.

INSPECTION of SHIPPING in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders Issued.
1890	Foreign	Steamers	—	—	—
		Sailing	4	—	—
		Fishing	—	—	—
		Total Foreign	4	—	—
	Coastwise.	Steamers	34	—	—
		Sailing	344	5	5
		Fishing			
		Total Coastwise	378	5	5
1891	Foreign	Steamers	1	—	—
		Sailing	3	—	—
		Fishing	—	—	—
		Total Foreign	4	—	—
	Coastwise.	Steamers	29	—	—
		Sailing	335	3	3
		Fishing			
		Total Coastwise	364	3	3
1892	Foreign	Steamers	—	—	—
		Sailing	3	—	—
		Fishing	—	—	—
		Total Foreign	3	—	—
	Coastwise.	Steamers	28	—	—
		Sailing	354	16	16
		Fishing			
		Total Coastwise	382	16	16

14. *Isolation Hospital :—*

A well-isolated house built of stone has been obtained by the Port Sanitary Authority for use as an isolation hospital. It is situate at a disused slate quarry about two miles up the Camel river. One of the rooms is fully furnished as a ward, and there is ample accommodation for further extension if necessary. The house is in charge of a caretaker and his

wife, and is quite ready for the reception of patients. Water derived from a well in the premises. Excrement buried in the ground surrounding the house. There is no proper laundry, but there is plenty of space for laundry operations.

15. *Disinfecting Apparatus* :—

None possessed by either the Port Sanitary Authority or by any of its constituent Authorities.

16. *Mortuary* :—

None.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

At Hawker's Cove. This is the duly appointed Boarding Station, but only vessels suspected of being "infected" are necessarily boarded here.

Coasters are not as a rule boarded at the boarding station.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Customs Officer detains vessels by day. Coastguards detain at night.

Instructions have been given to Pilots by the Sub-Commissioner to bring up any "infected" vessel, or any vessel coming from an "infected port" at the duly appointed Boarding Station.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

Officials detaining vessels communicate with the Customs, and the Customs inform the Medical Officer of Health by messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

There is no boat belonging to the Port Sanitary Authority, but there is not the slightest difficulty in obtaining one for the purposes of inspection, &c.

e. Mooring Station :—

The Mooring Station is fixed at Hawker's Cove near to the Boarding Station. It is well isolated and is the only safe place within the limits of the Port for the purpose. It has been approved by the Customs.

f. Inspection of Vessels ("infected" or from "infected port"):—

Vessels under either circumstance are duly inspected by the Medical Officer of Health. The Inspector of Nuisances, who apparently assists and frequently represents the Harbour Master, either boards or hails all vessels coming within the Port. He at once, if necessary, communicates with the Medical Officer of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

All persons on board mustered and inspected in either case.

h. Address Book:—

Not obtained at the time of inspection.

i. Special Isolation Provision for Cholera:—

The house already referred to under the heading of "Isolation Hospital" is practically the special provision which has been made.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

Under present arrangements such persons would either be detained on board the infected vessel for two days or removed to the isolation hospital.

l. Means provided for transfer of Infected Persons from Ship to Hospital:—

No special means have been provided for the transfer of infected persons to the hospital, but there is a steam tug in the harbour which it is stated would be used for the purpose.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) Clothes to be destroyed.
(*b.*) Ship to be fumigated.
(*c.*) Goods—no arrangements made.

n. Arrangements made for the Disposal of the Dead:—

It is proposed to bury on shore. It is said that ships once in the harbour are often unable to leave it again for some time, and that it would be impracticable from this fact amongst others to order interment at sea.

o. Action as to Water Supply of Vessels from Infected Ports:—

No action has apparently hitherto been necessary.

p. Action as to Bilges of Vessels from Infected Ports:—

Bilges would be pumped out and disinfected.

Final Conference with the Padstow Port Sanitary Authority was held on May 16th, 1893, when formal recommendations were made with regard to the following matters:—

1. The adoption of the Infectious Disease (Notification) Act, 1889.
2. The provision of a proper mortuary.
3. The steps to be taken in advance to secure, in the event of any marked extension of cholera in Europe, the medical inspection by night as well as by day of all vessels entering the port.

Action taken by the Port Sanitary Authority since Inspection.

The Infectious Disease (Notification) Act, 1889, was adopted July 22nd, 1893. [Letter from Port Sanitary Authority, dated August 19th, 1893.]

The other recommendations of the inspector attended to. [Letter from Port Sanitary Authority dated, July 31st, 1893.]

All vessels entering the Port during 1893 and 1894 from foreign ports are inspected by the Port Medical Officer of Health. [Annnal Reports of Port Medical Officer of Health for 1893 and 1894.]

Diagram Map showing the Sanitary Districts, Port and Riparian comprised in the Customs Port of Barnstable.

[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural Districts each Parish that is riparian is separately designated.]

I Barnstaple Port Sanitary District.

SECTION XIV.

Customs Port of Barnstaple.

Illustrated in Map XIV.

LIMITS OF CUSTOMS PORT.

(46.) *Barnstaple.*

The limits of the said Port of Barnstaple shall commence at a small stream of water running into the Bristol Channel at a place called Glenthorne, and which divides the Counties of Devon and Somerset, near the headland in the Bristol Channel, and County of Devon, called the Foreland (being the western limits of the Port of Bridgwater), and shall continue thence in a westerly direction along the coast of the said County to the point of land called Morte Point, and from thence in a direct straight line across Barnstaple and Bideford Bay to the point of land in the said County, called Hartland Point, and thence in a southerly and south-westerly direction along the coast of the County of Devon and County of Cornwall to Dazard Point, in the Parish of Saint Genny's, in the last-named County (being the northern limit of the Port of Padstow), and shall extend seaward from low-water mark along the coast within the aforesaid limits, and from the line drawn from Morte Point aforesaid to Hartland Point aforesaid, and shall*

And We do hereby further declare that the Island, calle Lundy Island, in the Bristol Channel, and the sea surrounding the same to a distance of three miles from low-water mark, shall be and form part of the said Port of Barnstaple.

Date of Treasury Warrant, 10th day of January 1882.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Barnstaple, the Urban Riparian Sanitary Districts of Northam, Ilfracombe, and Lynton, and certain Riparian Parishes of the Rural Sanitary Districts of Stratton, Bideford, and Barnstaple. The shipping trade is practically confined to the Barnstaple Port Sanitary District, as to which see report, page 460.

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* See footnote, page 78, *ante*.

Barnstaple Port Sanitary District.

[Barnstaple Customs Port (part of).]

Inspector: Dr. H. T. Bulstrode. *Date of Inspection:* April 14th and 15th, 1893.

Date of Order *permanently* constituting Port Sanitary District: March 14th, 1889.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Barnstaple Port Sanitary Authority," and consists of ten members composed of representatives of the Urban Sanitary Authorities of Barnstaple, Bideford, and Northam and the Rural Sanitary Authority of Barnstaple, as follows:—

Urban Sanitary Authority for the Borough of Barnstaple, three members.

Urban Sanitary Authority for the Borough of Bideford, two members.

Urban Sanitary Authority for the Local Government District of Northam, two members.

Rural Sanitary Authority of Barnstaple, three members.

This Authority exercises port functions in waters abutting upon the Sanitary Districts named above.

2. *Limits of Jurisdiction:—*

So much of the Port of Barnstaple "as lies within Barnstaple "Bar and extends up the River Taw to Barnstaple Bridge and "up the River Torridge to Bideford Bridge; together with the "waters,"* &c.

These limits are considered to be satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Barnstaple Urban Sanitary District.
Bideford Urban Sanitary District.
Northam Urban Sanitary District.
Barnstaple Rural Sanitary District. Parishes:—Westleigh, Instow, Fremington, Tawstock, Pilton, Ashford, Heanton Punchardon, Braunton.

4. *Apportionment of Expenses:—*

The constituent Riparian Authorities contribute towards the expenses of the Port Sanitary Authority in the following proportions:—

Barnstaple Urban Sanitary Authority	- Three-tenths.
Bideford - - -	- Two-tenths.
Northam - - -	- Two-tenths.
Barnstaple Rural Sanitary Authority	- Three-tenths.

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* See footnote, page 89, *ante*.

5. *General Character and Efficiency of Administration* :—

Good.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*) :—

FOREIGN.—Hamburg, Havre, Antwerp, *Ports of Norway and Sweden*, the Mediterranean, Baltic, Brazil.

COASTWISE.—*Liverpool*, *London*, *Dublin*, Cork, Exmouth, *Cardiff*, *Swansea*.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Imports.—Wood, valonia, hides, oilcake, manure and coal.
Exports.—Clay and gravel.
Rags.—Formerly some from Bilbao, none recently.
Passengers.—Excursions in summer to Lundy and Clovelly.
No immigrants or transmigrants.

8. *Amount of Shipping Inwards during three years*, 1890-91-92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	3	364	—	—	1	913
Foreign { Sailing	23	8,342	17	7,383	20	6,668
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	26	8,706	17	7,383	21	7,581
Coastwise { Steamers	81	3,889	82	3,896	101	5,307
Coastwise { Sailing	1,951	103,824	1,949	104,262	2,104	109,719
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	2,032	107,713	2,031	108,158	2,205	115,026

9. *Inland Water Communication* :—

None of any importance above Barnstaple or Bideford Bridges.

10. *Lines of Railway conveying Goods from Port* :—

Great Western Railway.
London and South-Western Railway.

11. *Medical Officer of Health* : Ezekiel Rouse.

Qualifications :—M.R.C.S., L.R.C.P.E. Salary, 10*l.* per annum, with repayment. Mr. Rouse also holds the appointments of Medical Officer of Health for the Northam Urban and for the Bideford Rural Sanitary Districts.

Character and efficiency of work done by Medical Officer of Health :—This officer apparently takes interest in his work, and will, when proper provision is made for isolation, deal effectively with any cholera introduced into the Port.

12. *Inspector of Nuisances:* T. H. Fishwick.

No sanitary certificate. Salary, 15*l.* per annum with repayment. Mr. Fishwick is a ship's chandler, and holds appointments as Norwegian Consul and as Lloyd's Agent.

Character and efficiency of work done by Inspector of Nuisances:—

In his capacity as Lloyd's Agent this Inspector is brought into contact with a very large number of vessels. He apparently understands his duties.

13. *Nuisances:*—

Number of vessels inspected, foreign and coastwise, respectively during 1890–91–92, with number reported defective and number of orders issued in each year:—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	10	—	—
		Fishing	—	—	—
		Total Foreign	10	—	—
	Coastwise	Steamers	—	—	—
		Sailing	23	—	—
		Fishing	—	—	—
		Total Coastwise	23	—	—
1891	Foreign	Steamers	—	—	—
		Sailing	22	—	—
		Fishing	—	—	—
		Total Foreign	22	—	—
	Coastwise	Steamers	—	—	—
		Sailing	35	—	—
		Fishing	6	—	—
		Total Coastwise	41	—	—
1892	Foreign	Steamers	1	—	—
		Sailing	27	—	—
		Fishing	—	—	—
		Total Foreign	28	—	—
	Coastwise	Steamers	—	—	—
		Sailing	30	—	—
		Fishing	8	—	—
		Total Coastwise	38	—	—

14. *Isolation Hospital :—*

The Port Sanitary Authority has recently purchased a Norwegian ship, the "Nymphen," which was built about 17 years ago, and is some 312 tons register. The length of the vessel is 123′, her beam 27′ 4″. The cost for the purchase of the hull was 400*l.*, and alterations were at the time of the Inspector's visit being effected at a further cost of 649*l.*, *i.e.*, total cost 1,049*l.* The whole of the interior of the vessel is to be reconstructed and provision made on one side of the space between decks for males, and on the other for females. On the male side of the vessel is a ward 31′ × 10′ 6″ × 12′, a convalescent ward 9′ × 10′ × 12′, an isolation ward 15′ × 8′ × 12′, a nurse's lavatory and a storeroom. Near to the larger ward, but cut off from it, is a watercloset and bath room. On the same side of the vessel is the laundry, kitchen, and larder. The female side of the vessel is in design similar to the male side, except that the laundry space is taken up by mortuary and staircase ; while corresponding to the isolation ward is the nurse's night room. The two sides of the vessel are separated by a passage. In the after deckhouse is provision for doctor, nurse, and dispensary, while in the deckhouse forward is a recreation room, and accommodation for the caretaker. By an ingenious arrangement of bulkheads, it is proposed that, if necessary, the vessel shall be made available for the treatment of more than one infectious disease at the same time. Ventilation of the wards is provided for by means of an extraction apparatus. With the vessel were purchased three boats, and it is proposed that one of these shall be fitted up as an ambulance. The patients will be elevated from the boat ambulance by means of a derrick erected on deck, and then lowered through a skylight into the ward. The water supply is stored in iron tanks ; drainage passes into the river. It is proposed to receive excreta from cholera or enteric patients into pails lined with absorbent material, which can be removed and burnt in a cremator erected for the purpose. The above details were supplied by the architect, Mr. M. Petter, of Barnstaple.

15. *Disinfecting Apparatus :—*

None.

16. *Mortuary :—*

A separate compartment on board the "Nymphen" has been set aside as a mortuary.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Adopted January 17th, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The Customs Boarding Station is off the Watch-house Appledore. All vessels from foreign are boarded at the official station, but

coasters are only occasionally boarded there. The following places of debarkation exist at this Port—Appledore, Barnstaple, Bideford, Braunton, and Instow.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

A tidal watch is kept by the Officers of Customs at Appledore, and they would detain any vessel "infected" or suspected to be infected by cholera. Instructions have been given to the "Hobblers" (unlicensed pilots) by the Customs, not to board an "infected" vessel, but to communicate at once with them. There are no licensed Pilots at this Port.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Officer of Customs would either telegraph to, or communicate by special messenger with, the Port Medical Officer of Health.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

Hitherto a boat has had to be hired on each occasion; in future one of the boats purchased with the hospital ship will be available.

e. Mooring Station :—

Up to the time of inspection the appointed mooring station was at "Braunton Sands," but it was then ascertained that the depth of water was insufficient there except for vessels of light draught. It was therefore arranged with the approval of the Port and Customs Authorities that in the case of vessels too large to proceed to Braunton the appointed mooring station should be "Appledore Pool."

f. Inspection of Vessels ("infected" or from "infected port")—

Vessels whether "infected" or from "infected port" will be inspected by the Medical Officer of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

All persons on board vessels whether "infected" or from "infected port" will be carefully inspected.

h. Address Book :—

None provided.

i. Special Isolation Provision for Cholera :—

The hospital ship "Nymphen."

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons would be isolated on board the "Nymphen."

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

By ambulance boat from ship to hospital, and then lifted by means of derrick, and let down into the ward.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods* :—

(*a.*) Destroyed.
(*b.*) Fumigated with sulphurous acid.
(*c.*) None.

n. Arrangements made as to the Disposal of the Dead :—

At this Port sea burial is out of the question. The dead will be disposed of by burial in one or other of the churchyards in the riparian districts.

o. Action as to Water Supply of Vessels from Infected Ports :—

Water tanks, &c. emptied, and fresh supply provided at Appledore.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges pumped out and disinfected by carbolic acid.

Final Conference with the Barnstaple Port Sanitary Authority was held on May 17th, 1893, when the only formal recommendation made had regard to the steps to be taken beforehand to secure, in the event of any marked extension of cholera in Europe, the medical inspection by night as well as by day of all vessels entering the Port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

The hospital ship "Nymphen" is now in use, and cases of infectious disease have been isolated therein. [Annual Report of Port Medical Officer of Health for 1893.]

SECTION XV.

Customs Ports of Bridgewater, Bristol, Gloucester, Newport, and Cardiff.

Illustrated in Map XV.

LIMITS OF CUSTOMS PORTS.

(47.) *Bridgewater.*

The limits of the said Port shall extend from the most eastern part of Bream Down, at the mouth of the River Axe, on the north-east of the County of Somerset, being the western boundary of the Port of Bristol, along the coast of the said County in a westerly direction, to a rivulet running into the Bristol Channel at a place called Glenthorne, forming the eastern limit of the Port of Barnstaple, and dividing the northern coast of the County of Somerset from that of Devonshire; the said extents, bounds, and limits should also extend northwards to a distance of three miles from low-water mark along the whole line of coast between the eastern side of Bream Down and the rivulet at Glenthorne aforesaid, and shall include the course of the River Parrett as far up as the Bridge in the Town of Bridgewater, and that of the River Brue as far up as where it is crossed by the Bristol and Exeter Railway, with the creeks and pills within the said limits contained.

Date of Treasury Warrant, 10th day of February 1844.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Bridgewater, the Urban Riparian Sanitary District of Minehead, and certain Riparian Parishes of the Rural Sanitary Districts of Williton and Axbridge. The shipping trade, with the exception of one or two small harbours in the Williton Rural District, is practically confined to the Bridgewater Port Sanitary District, as to which see report, page 468.

(48.) *Bristol.*

The limits of the said Port of Bristol shall be, on the north-east, a line following the site of the Severn Tunnel from the shore, in the County of Gloucester, until it is intersected by a supposed straight line from Aust, in the said County, to the westernmost part of the Flat and Steep Holmes in the Bristol Channel.

On the north-west, the said last-mentioned line from the point where it intersects the first-mentioned line of the westernmost part of the Flat and Steep Holmes aforesaid.

On the south-west, a supposed straight line from the westernmost part of the Flat and Steep Holmes aforesaid to the most eastern part of the Brean Down, at the mouth of the River Axe, in the County of Somerset, and on the south-east shall extend from the place last-mentioned along the coast of the Counties of Somerset and Gloucester to the site of the Severn Tunnel, and shall extend up the River Avon to Netham, and shall*

Date of Treasury Warrant, 26th day of January 1891.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Bristol, the Urban Riparian Sanitary District of Weston-super-Mare, and certain Riparian Parishes of the Rural Sanitary District of Axbridge. Shipping trade is confined to the Bristol Port Sanitary District, as to which see report, page 475.

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* See footnote, page 78, *ante*.

ON XVI.

ansea, Llanelly, Milford, ardigan.

in Map XVI.

Customs Ports.

Swansea.

nsea shall commence at Nash Point oast of Glamorganshire to Wormshead, , in the said County, and that*

lay of November 1847.

Customs Port are comprised the Port e Urban Riparian Sanitary Distric of ian Parishes of the Rural Sanitary e is practically confined to the Swansea see report, page 520.

Llanelly.

all commence at Whitford Point in hole of the Burry River, and comprise Carmarthenshire to Sandersfoot, being nty of Carmarthen, and that*

day of November 1847.

Customs Port are comprised the Urban anelly, Kidwelly, and Carmarthen, and e Rural Sanitary Districts of Gower, th.

the Urban Riparian Districts, and at rian Districts of Llanelly and Narberth, of these districts will be found at pages ively.

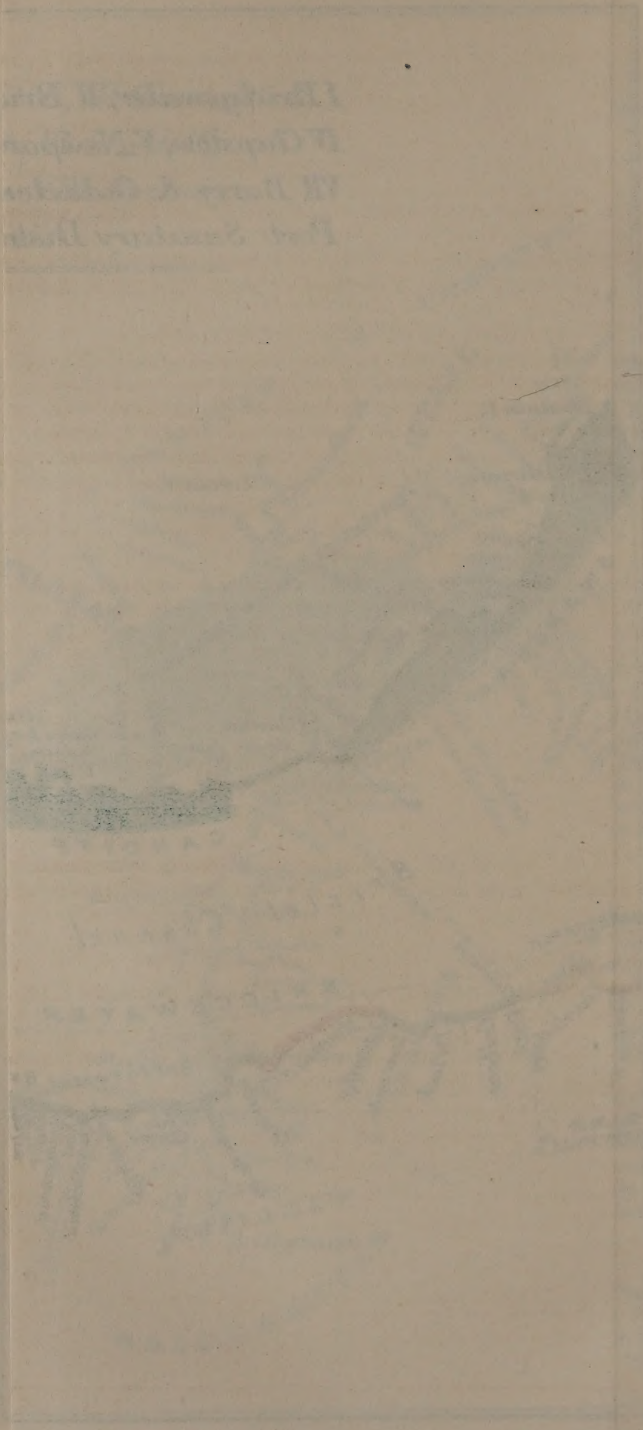
Milford.

ll commence at Sandersfoot aforesaid, place called Saint Justinian's Chapel, County of Pembroke, including Milford

day of November 1847.

Customs Port are comprised the Port e Urban Riparian Sanitary District of rishes of the Rural Sanitary Districts of ordwest. The shipping trade is confined istrict and the Tenby Urban Riparian se will be found at pages 548 and 645

note, page 78, *ante*.



(49.) *Gloucester.*

The limits of the said Port of Gloucester shall commence at Redwick Pill, in the County of Monmouth (being the eastern limit of the Port of Newport), and extend from thence in a straight line in a southerly direction across the River Severn until it meets another straight line drawn from the north-westernmost part of the Flat Holm, in the Bristol Channel, to Aust Point, in the County of Gloucester, and shall proceed from the point of intersection along the line last mentioned, in the direction of Aust Point aforesaid, as far as the side of the Severn Tunnel, and from thence, following the line of the Severn Tunnel in a south-easterly direction, to the Gloucestershire Shore, and from thence extending up the River Severn and including both banks thereof as far as the Bridge called Westgate Bridge, in the City of Gloucester, and shall*

Date of Treasury Warrant, 26th day of January 1891.

Within the boundaries of this Customs Port are comprised the Port Sanitary Districts of Gloucester and Chepstow, the Urban Riparian Sanitary Districts of Newnham and Avon, and certain Riparian Parishes of the Rural Sanitary Districts of Westbury-upon-Severn and Chepstow. The shipping trade is practically confined to the Gloucester and Chepstow Port Sanitary Districts, reports as to which will be found at pages 483 and 491 respectively.

(50.) *Newport.*

The limits of the said Port of Newport shall commence at Redwick Pill, in the County of Monmouth, being the western extremity of the Port of Chepstow, and continue along the coast of the said County to the River Rumney, which divides the Counties of Glamorgan and Monmouth.

And that the limits of the said Port of Newport shall extend to the middle of the River Severn.

Date of Treasury Warrant, 20th day of December 1847.

The whole of this Customs Port is comprised within the limits of the Newport Port Sanitary District. See report, page 496.

(51.) *Cardiff.*

The limits of the said Port of Cardiff shall commence at the River Rumney aforesaid, and continue along the coast of the County of Glamorgan to a place called Nash Point, in the said County.

And that the limits seaward of the said Port of Cardiff shall*

Date of Treasury Warrant, 20th day of December 1847.

Within the boundaries of this Customs Port are comprised the Port Sanitary Districts of Cardiff and of Barry-and-Cadoxton, and certain Riparian Parishes of the Rural Sanitary Districts of Bridgend and Cowbridge. The shipping trade is confined to the two Port Sanitary Districts, as to which see pages 504 and 511 respectively.

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* See footnote, page 78, *ante*.

Bridgewater Port Sanitary District.

[Bridgewater Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 7th, 1893.

Date of Order *temporarily* constituting Port Sanitary District: March 14th, 1893, renewing the Order of March 15th, 1881.†

1. *Constitution of Port Sanitary Authority:—*

   The Port Sanitary Authority is "the Mayor, Aldermen, and Burgesses of the Borough of Bridgewater acting by the Council." The Port Sanitary Authority discharges port functions in waters abutting upon the Burnham Urban and Bridgewater and Axbridge Rural Sanitary Districts, in addition to the Bridgewater Urban Sanitary District.†

2. *Limits of Jurisdiction:—*

   "So much of the Customs Port of Bridgewater as lies to the southward of or within an imaginary straight line drawn from the most northerly point of Stert Point to the Lower Lighthouse in the parish of Burnham; together with the waters," &c.*†

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

   Bridgewater Urban Sanitary District.
   Burnham Urban Sanitary District.
   Axbridge Rural Sanitary District. Parish:—
   Burnham.
   Bridgewater Rural Sanitary District. Parishes:—
   Huntspill, Paulett, Puriton, Bridgewater, Otterhampton, Cannington, Wembdon, and Chilton Trinity.

4. *Apportionment of Expenses:—*

   All expenses paid by the Bridgewater Urban Sanitary Authority.†

5. *General Character and Efficiency of Administration:—*

   General administration only moderate. The inspection of shipping under the Public Health Acts has not hitherto been carried out systematically, and the equipment of the district is defective in several important particulars.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*):—

   Foreign.—*The Baltic, German, Dutch,* and *French* Ports [including Hamburg, Harburg, Antwerp, Rotterdam, Havre, Rouen and Dieppe], Archangel, the Mediterranean, Black Sea, and South American ports.

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* See note, page 89, *ante.* † See page 473, *post.*

COASTWISE.—*Cardiff, Newport, Lydney, London, Liverpool, Cork,* Dublin, Waterford, Glasgow, and occasionally in fact from all British ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN :—

Imports :—Timber from the Baltic and White Sea, rags from France occasionally, hides and linseed from South America, valonia from Greece, grain from Canada, Norway, Sweden, and Russia. No passengers, immigrants, or transmigrants.

Exports :—Bricks.

COASTWISE :—

Imports :—Rags from Cardiff, coal, iron, and corn. No regular passenger trade.

Exports :—Bricks.

8. *Amount of Shipping Inwards during three years,* 1890-91-92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	2	490	1	457	4	1,819
	Sailing	62	13,467	56	10,690	61	12,996
	Fishing*	—	—	—	—	—	—
Total Foreign		64	13,957	57	11,147	65	14,815
Coastwise.	Steamers	360	26,304	352	26,172	475	32,666
	Sailing	2,646	156,342	2,572	155,415	1,991	115,125
	Fishing*	—	—	—	—	—	—
Total Coastwise		3,006	182,646	2,924	181,587	2,466	147,791

* There are no registered fishing boats at this port; the only fishing is done by small open boats, within the three-mile limit.

9. *Inland Water Communication :*—

Barges go up the river as far as Langport, and also up the Bridgewater and Taunton Canal to Taunton. These barges, which are simply open lighters and not used as dwellings, are not inspected.

10. *Lines of Railway conveying Goods from Port :*—

The Great Western Railway and the Somerset and Dorset Railway.

11. *Medical Officer of Health :* Francis John Crane Parsons.

Qualifications :—L.R.C.P. Lond., L.S.A., M.R.C.S. Eng. Salary, 20*l.* per annum, with repayment. Mr. Parsons also holds appointments of Medical Officer of Health to Bridgewater Urban and Rural Sanitary Districts.

Character and efficiency of work done by Medical Officer of Health :—The Medical Officer of Health is acquainted with the Cholera Orders and prepared to carry them out.

12. *Inspector of Nuisances :* Francis Parr.

Qualifications :—No sanitary certificate. Salary, 30*l.* per annum, with repayment. Is also Borough Surveyor, Inspector of Nuisances to Urban District, and Surveyor to School Board.

Character and efficiency of work done by Inspector of Nuisances:—

The Port Inspector of Nuisances is apparently an intelligent officer and desirous of discharging his duties efficiently. Up to the date of inspection he had, however, owing no doubt to the time taken up by his other appointments, only occasionally inspected vessels under the Public Health Acts, and had kept no record of such inspections. He undertook to carry out his inspections of shipping more regularly in the future, and to keep a proper record of the work.

13. *Nuisances*:—

No record kept.

14. *Isolation Hospital*:—

The Port Sanitary Authority possesses a small brick hospital situated close to the dock, in a convenient position for cases of shipborne disease detected at Bridgewater. For the general purposes of the port, however, *quâ* cholera, the position of this hospital is unsatisfactory, since cholera on vessels coming to the district would, presumably as a rule, be detected at Burnham, the Customs boarding station, 18 miles below Bridgewater. Hence some provision in that locality seems desirable.

The Bridgewater hospital is fairly well removed from dwellings, but there are some allotment gardens immediately behind it. It contains two wards, measuring 24 × 18 × 12 feet, nurses' duty room, kitchen, and pantry; and in a separate building there are a wash-house, coal store, and small mortuary. Two extra bedrooms were about to be erected at date of inspection. The hospital is kept in readiness, and the town water is laid on, but there is no drainage. Earth closets are used for excrement disposal, and slops thrown on the ground or into a ditch. All slops, it is said, will be disinfected when cholera is in question.

15. *Disinfecting Apparatus*:—

None provided.

16. *Mortuary*:—

Small mortuary at the hospital above described.

17. *Regulations under Section* 125 *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Act adopted March 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

At Burnham, "between the pier and the Lower Light." Boarding of foreign vessels carried out at night as by day. Coasters boarded at their moorings as time allows. The Customs Establishment consists of: Bridgewater, one Principal Coast Officer, and one Outdoor Officer; Burnham, one Principal Coast Officer, and two Boatmen.

b. Arrangements as to detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

Any vessels found to be infected with cholera, or suspected of being infected, would be detained, and the Port Medical Officer of Health sent for. At Burnham such vessels would be detained an hour or two at the boarding station. If longer detention were required, it would be necessary to send the vessels to the anchorage at the Flat Holm, as there is only sufficient water for them at Burnham for a few hours each tide. At Bridgewater "infected" vessels would probably have to be detained in the dock, though if they came up very early on the tide it might be just possible to get them out to sea again. Pilots are licensed by Trinity House, but under control of local Sub-Commissioners. No special instructions given to them.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health:—

Telegraph by day, and special messenger by night.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships:—

The Port Sanitary Authority possesses no boat, but boats at Burnham are always available, and a tug could usually be obtained if required.

e. Mooring Station:—

No mooring station fixed, owing to the difficulty of finding any suitable one except near the Flat Holm. The members of the Port Sanitary Authority who were present at the conference complained strongly of their difficulty in this respect, and their inability to carry out Article 6 of the Cholera Order (August 28th, 1890) unless allowed a mooring station in the anchorage near the Flat Holm, which it was urged is the only place at all available for the purposes of their district. In this opinion they were supported by the Chief Customs officer and the Harbour Master, who also were present. With regard to Little Stoke and Blue Anchor Bay, it was maintained that both were unsuitable. As to Little Stoke the Harbour Master said there was not sufficient water, and it was "about the worst place in "the Bristol Channel to anchor a ship." At Blue Anchor Bay, he said, there is certainly good holding, but it is very much exposed, and would only be safe in moderate weather. Further, he said, vessels would have to lie some distance off shore, and would be in the "fair way." He did not in fact believe pilots would take vessels there if ordered. Lastly, Blue Anchor Bay is 18 miles off. The Inspector urged the possibility of using Blue Anchor Bay in fair weather, giving masters the alternative of running elsewhere for shelter if necessary, but it was pointed out that most of the vessels are sailing vessels, and might not be able to run elsewhere, but would in certain winds be driven ashore instead. Finally, the Inspector inquired as to the suitability of Blue Anchor Bay for a mooring station in ordinary weather, if the Sanitary Authority provided a tug to lie by sailing vessels sent there, with a view to towing them elsewhere for shelter if necessary. Even with

this precaution, however, Blue Anchor Bay was not considered suitable, as it seemed to be thought that it would frequently be unsafe to send vessels there, that they would have to lie in the "fair way," and that pilots might refuse to take them there; and the Chief Officer of Customs, as the Inspector understood him, was not prepared to take the responsibility of approving a mooring station in that locality. The consideration of the question was therefore brought to a deadlock, and the Inspector said that he would forthwith report to the Board the opinions which had been expressed, and the evidence which had been given by the Harbour Master, and that he would communicate again with the Port Sanitary Authority.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health undertakes to inspect all vessels from "infected ports." If he can obtain information as to their arrival he will meet them at Burnham. If not, he will inspect them in the dock on their arrival at Bridgewater.

[Owing to the special circumstances of the district, it is obviously of importance that "infected" vessels should be detected at Burnham, otherwise they would obtain entrance to the dock at Bridgewater, before being dealt with.]

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health will see the ships' articles, and muster and examine all hands on board.

h. Address Book:—

No special address book kept.

i. Special Isolation Provision for Cholera:—

Small brick hospital near Bridgewater Dock. [See **14** above.]

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

Such persons would be detained for a period of 48 hours for observation, either on the vessel, or in a hospital, according to circumstances.

l. Means provided for transfer of Infected Persons from Ship to Hospital:—

No special means provided, but it was stated that boats could be hired.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods:*—

(*a.*) None. Infected clothing would be burnt.
(*b.*) Sulphur fumigation and drenching with carbolic acid solution.
(*c.*) None.

n. Arrangements made as to the Disposal of the Dead:—

None made. (At Inspector's final visit, he was informed that the burial authorities of St. John's and St. Mary's parishes had agreed to set aside land for the burial of cholera dead.)

o. Action as to Water Supply of Vessels from Infected Ports:—

The water supply of such vessels will be ordered to be pumped out, and the tanks cleansed with permanganate of potash

solution, before entering the dock if possible. This, however, is not likely to be accomplished unless vessels are dealt with at Burnham in the first instance.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges will be ordered to be pumped out and cleansed with carbolic acid solution before entering the dock when possible.

Final Conference with the Bridgewater Port Sanitary Authority was held on September 5th, 1893, when formal recommendations were made with regard to the following matters :—

1. The steps necessary to ensure the regular inspection and supervision of all vessels entering the port.
2. The special arrangements to be made for securing medical inspection of vessels before their entry into the river.
3. The provision of proper means for isolation of the sick at Burnham.
4. The provision of proper means for the conveyance by water of the Authority's Inspecting Officers, and of the sick.
5. The arrangements to be made to provide a proper water supply to vessels coming from infected ports.
6. The steps to be taken beforehand to ensure, in the event of any extension of cholera to British ports, the medical inspection of all vessels coming coastwise as well as from foreign.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Between the date of the Final Conference and the end of the year 1893, 109 vessels (90 British and 19 foreign) were inspected under the Public Health Acts. In 63 instances sanitary defects were met with, and in all cases notices requiring their abatement were served. Fifty-three of these notices were complied with. [Report of the Port Inspector of Nuisances accompanying the Annual Report of the Port Medical Officer of Health for 1893.]

Arrangements made for the medical inspection of suspected vessels off Burnham. [Letter from the Port Sanitary Authority, dated September 16th, 1893.]

During 1894 a systematic inspection of vessels entering and leaving the Port was carried out, nearly 1,000 visits having been paid by the Port Inspector of Nuisances. [Annual Report of Port Medical Officer of Health for 1894.]

[Since the above report was written a Port Sanitary Authority has been *permanently* constituted for this district by an Order dated June 21st, 1894. As a result of that Order, which came into force on August 1st, 1894, sections 1, 2, and 4 of the above report should now read as under :—

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is a Joint Board termed "The "Bridgewater Port Sanitary Authority," and is composed of 12 representative members, as follows :—

Bridgewater Urban Sanitary Authority.—Six members.					
Burnham	„	„	„	Two	„
Axbridge Rural	„	„		One	„
Bridgewater Rural	„	„		Three	„

It discharges port functions in the Bridgewater and Burnham Urban and the Axbridge and Bridgewater Rural Sanitary Districts.

2. *Limits of Jurisdiction :—*

"So much of the said Port of Bridgewater as lies to the landward of a straight line drawn from the most northerly extremity of Stert Point to the seaward extremity of the common boundary of the parishes of Burnham-with-Aston Morris and Berrow; together with the waters,"* &c.

4. *Apportionment of Expenses :—*

The Riparian Authorities contribute in the following proportions :—

Bridgewater Urban Sanitary Authority.—			Six-twelfths.
Burnham	„	„	Two-twelfths.
Axbridge Rural	„	„	One-twelfth.
Bridgewater Rural	„	„	Three-twelfths.]

A fresh mooring station has been fixed by the Port Sanitary Authority near the Flatholme. Being without the limits of the Port Sanitary District, the Board's sanction to its adoption was required. This was given by a Special Order, dated March 30th, 1895.

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* See footnote, page 89, *ante*.

Bristol Port Sanitary District.

[Bristol Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 6th, 1893.

Date of Order *temporarily* constituting Port Sanitary District March 14th, 1893. Renewing the Order of March 19th, 1891.*

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the borough of Bristol acting by the Council." The Port Sanitary Authority exercises port functions in waters abutting upon the Bristol, St. George's, and Portishead Urban Sanitary Districts, and the Keynsham, Bedminster, Barton Regis, and Thornbury Rural Sanitary Districts.*

2. *Limits of Jurisdiction:—*

"So much of the port of Bristol as lies to landward of a line following the site of the Severn Tunnel from the shore in the county of Gloucester to the point of intersection of the said line by a supposed straight line from Aust in the said county, to the westernmost part of the Flat and Steep Holmes in the Bristol Channel, thence following such last-mentioned line to the point of intersection of the same by a straight line drawn due west from the most westerly point of the shore, above high-water mark, in the parish of Portishead, and thence following such last-mentioned line to the point of the shore at which the same commences, together with the waters," &c.†

It seems desirable that the limits of jurisdiction should be extended in the south-westerly direction. An inquiry into this and other matters was held on January 17th, 19th, and 20th, 1893.*

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Bristol Urban Sanitary District.
St. George's Urban Sanitary District.
Portishead Urban Sanitary District.
Keynsham Rural Sanitary District. Parishes: Hanham, Bitton, Brislington, Keynsham, &c.
Bedminster Rural Sanitary District. Parishes: Bedminster, Long Ashton, Abbots Leigh.
Barton Regis Rural Sanitary District. Parishes: Henbury, Shirehampton, and Westbury-upon-Trym.
Thornbury Rural Sanitary District. Parish of Northwick-with-Redwick.*

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* See page 481, *post.*

† See footnote, page 89, *ante.*

4. *Apportionment of Expenses:—*

Wholly borne by the Bristol Urban Sanitary Authority.*

5. *General Character and Efficiency of Administration:—*

Very good.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communications, are printed in *italics*):—

FOREIGN.—*Hamburg* (three vessels a week), *Antwerp, Rotterdam,* also various ports in the Baltic, Norway and Sweden, Germany, Holland, Belgium, France, Spain, and Portugal, the Mediterannean and Black Seas, and North and South America.

COASTWISE.—*Bristol Channel Ports chiefly,* also *London, Hull, Irish, and Scotch ports.* Plymouth, and occasionally from practically all British ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

FOREIGN.—*Imports:* General cargoes, hides, wine, tobacco, iron and glass; timber from the Baltic; corn from the Black Sea and America; oranges from Spain; fruit, eggs, butter, cheese, bacon, &c., from Hamburg, Antwerp, and Rotterdam, and Continental ports generally. Old rope, old carpets, and fair quantity of rags from North German ports; ice from Norway. Only casual passengers, and no regular immigrant or transmigrant traffic. *Exports:* Tin and iron plate, but vessels usually go away light. A few emigrants to America.

COASTWISE.—*Imports:* Rags occasionally from Liverpool and London. Considerable and regular passenger service with London and Irish and Scotch ports. *Exports:* General cargoes.

8. *Amount of Shipping Inwards during three years,* 1890–91–92:—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	575	515,557	623.	568,901	595	566,098
Foreign { Sailing	247	102,422	239	100,073	237	102,397
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	822	617,979	862	668,974	832	668,495
Coastwise { Steamers, Sailing, Fishing	7,278	674,076	7,388	690,935	8,308	744,394
Total Coastwise	7,278	674,076	7,388	690,935	8,308	744,394

Said to be practically no fishing boats at the port.

9. *Inland Water Communication:—*

A considerable amount of seaborne merchandise goes up the Avon in barges, and thence along the Kennet and Avon, and Wiltshire and Berkshire canals, which join the network of canals, going practically all over the country.

* See page 482, *post*.

10. *Lines of Railway conveying Goods from Port:—*

Great Western, Midland, and London and North-Western (through its communication with the Great Western) Railways.

11. *Medical Officer of Health:* David S. Davies.

Qualifications:—M.D. Lond. (State Med.), L.R.C.P. Lond., M.R.C.S. Eng., D.P.H. Camb. Salary, 50*l.* per annum without repayment. Dr. Davies also holds the appointment of Medical Officer of Health to the Bristol Urban Sanitary District.

Assistant Port Medical Officer of Health (permanent). J. C. Heaven, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., D.P.H. Eng. Paid by fee of 1*l.* 1*s.* for each visit to a vessel or the hospital.

During the autumn of 1892 a second Assistant Port Medical Officer of Health was temporarily appointed to assist in the inspection of vessels from "infected ports." This year (1893) it is proposed to appoint six of the Medical Officers of the Bristol Dispensary, who will act in turn for a week at a time as Assistant Port Medical Officers of Health.

Character and efficiency of work done by Medical Officers of Health:—Highly efficient.

12. *Inspector of Nuisances:* Solomon Oliver Dimond.

Qualifications:—Certificate of the Sanitary Institute. Salary, 180*l.* without repayment. Mr. Dimond is also Inspector of Nuisances to the Bristol Urban Sanitary District. The above salary is for both offices.

First Assistant Inspector of Nuisances, Albert J. Dickens (Formerly Assistant Pilot), who lives at Avonmouth; salary, 2*l.* 2*s.* per week.

Second Assistant Inspector of Nuisances, James Rex, who also acts as caretaker of Port Sanitary Authority's hospital; salary, 1*l.* 1*s.* per week.

Character and efficiency of work done by Inspectors of Nuisances: Very good.

13. *Nuisances:—*

Inspection of shipping attended to and nuisances abated.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	146	350	386
		Sailing			
		Fishing	None.		
	Total Foreign		146		
	British	Steamers	1,078		
		Sailing			
		Fishing	None.		
	Total British		1,078		

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	160	372	439
		Sailing	None.		
		Fishing			
		Total Foreign	160		
	British	Steamers	1,162		
		Sailing	None.		
		Fishing			
		Total British	1,162		
1892	Foreign	Steamers	151	261	317
		Sailing	None.		
		Fishing			
		Total Foreign	151		
	British	Steamers	1,114		
		Sailing	None.		
		Fishing			
		Total British	1,114		

14. *Isolation Hospital* :—

The Port Sanitary Authority possesses a wooden hospital at Avonmouth for about eight patients (with 2,000 cubic feet of air space per patient). It has, however, recently purchased the wooden ship "Margarida," formerly employed in the Argentine general trade, and was, at the time of the inspection, fitting her up as a port hospital. The wards, four in number, are being so arranged that each pair will be aërially cut off from the other, so as to render it possible, if necessary, to admit simultaneously patients suffering from two different diseases. Water will be sent from Avonmouth. Excrement disposal by water closets. The "Margarida" will be moored at the entrance to the old river.

15. *Disinfecting Apparatus* :—

The Port Sanitary Authority has the use of the Urban Sanitary Authority's Washington Lyon's apparatus, which is situated in the town, but on the river bank, in such a position as to be available for port purposes.

16. *Mortuary* :—

There is a mortuary at the Avonmouth hospital, and one will also be provided on the new floating hospital.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

Approved by the Local Government Board December 31st, 1888.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not yet adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

At the entrance to the Portishead and Avonmouth Docks, and in King Road. In the ordinary way, vessels are boarded either in King Road, at the entrance to the docks, or, in the case of vessels going to Bristol Dock, in the river. At the time of inspection all vessels from foreign ports were being boarded in King Road, and this arrangement was to be continued throughout 1893. Boarding of foreign vessels the same by night as by day. Coasting vessels not systematically boarded. Places of debarkation, Avonmouth and Portishead Docks and Bristol Old Docks. There are always Customs Officers employed in re-rummaging, &c. at these docks.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Vessels would be detained by Custom officials, if necessary, for inspection by the Port Medical Officer of Health.

Pilots are licensed by, and under the control of, the Bristol Corporation.

Regulations have been issued to pilots by the Port Sanitary Authority, with the approval of the Pilot Master. The Pilot Master has also issued an order that all vessels arriving from "infected ports" are to anchor in King Road for Customs' interrogation.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

By special messenger. Telephone, however, is available during the day. A horse and trap could be obtained at Avonmouth, if required, at night.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority has purchased a good steam yacht, the "Luath," 65 feet long by 10 feet beam, compound engines. She is in regular work for the purpose of Port sanitary inspection. The crew consists of captain, engineer, one deck hand and steward.

e. Mooring Station :—

A mooring station has been fixed in King Road, off Dumball Island. It is in the Bristol Customs Port and Port Sanitary District, and has been approved by the Collector of Customs.

f. Inspection of Vessels ("infected" or from "infected port") :—

All vessels from "infected ports" inspected during night and day in King Road by the Port Inspector of Nuisances. Regular medical inspection of all vessels from infected ports had not been commenced at the time of inspection. In the meantime the Port Medical Officer of Health or Assistant Port Medical Officer of Health would at once visit any vessels reported as suspected.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

Ships' articles inspected and all persons on board mustered and medically examined. These measures carried out in all cases with regard to vessels found to be infected, or suspected to be infected, and about to be extended at the time of inspection, to all vessels from infected ports.

h. Address Book:—

Address book kept.

i. Special Isolation Provision for Cholera:—

Hospital at Avonmouth. Floating hospital in preparation.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

Such persons would be detained for 48 hours, either on board the ship on which they arrived or at the hospital.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

The steam yacht "Luath." Stretcher with waterproof cover provided.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) Washington Lyon's apparatus available, but cholera-infected articles would be burnt.

(*b.*) Sulphur fumigation (liquid sulphurous acid). Mercuric chloride solution for woodwork. Carbolic acid solution for ironwork.

(*c.*) A few rags have been disinfected in the Urban Sanitary Authority's steam apparatus. This, however, was found to make too great a demand on the time of the Port Inspectors of Nuisances and consequently the Port Sanitary Authority decided to charge 1*l.* a ton for rag disinfection in future. No rags have since been disinfected.

n. Arrangements made for the Disposal of the Dead:—

The Port Medical Officer of Health proposes to bury them at sea, properly weighted, unless an arrangement can be made with the Cardiff Port Sanitary Authority for cremating them in the crematorium about to be erected at the Flat Holm.

o. Action as to Water Supply of Vessels from Infected Ports:—

Water pumped out in King Road when possible, tanks cleansed with permanganate of potash solution and fresh water supplied if required.

p. Action as to Bilges of Vessels from Infected Ports:—

Bilges pumped out in King Road or going up the river, and flushed with carbolic acid solution. The bilges are sounded in all cases.

Final Conference with the Bristol Port Sanitary Authority was held on August 11th, 1893, when the only formal recommendation made had regard to the steps to be taken beforehand to secure, in

the event of British ports becoming infected by cholera, the medical inspection of vessels coming coastwise as well as from foreign.

Action taken by the Port Sanitary Authority since Inspection.

During the danger of cholera in the summer and autumn of 1893, the Port Sanitary Authority's steam launch was engaged on inspection service and was out on every tide, night and day. An Inspecting Medical Officer, and an Inspector and Assistant Inspector of Nuisances, resided on board, and were constantly on duty visiting, and if necessary, boarding all vessels arriving "whether from British Ports or from Foreign Ports." [Letter from the Port Sanitary Authority, dated September 18th, 1893.] The hulk "Margarida" was fitted up as a hospital ship, with accommodation for 30 patients and officers, and was "moored in a "suitable and safe position at the river mouth." [Annual Report of the Port Medical Officer of Health for 1893.]

[Since the above report was written a Port Sanitary Authority has been *permanently* constituted for this district by an Order dated June 11th, 1894. As a result of that Order, which came into operation on August 1st, 1894, Sections 1, 2, 3, and 4 of the report should read as under:—

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the City of Bristol, acting by the Council."

The Port Sanitary Authority exercises port functions in waters abutting upon the Bristol, St. George's, Portishead, and Clevedon Urban Sanitary Districts and the Keynsham, Bedminster, Barton Regis, Thornbury, and Axbridge Rural Sanitary Districts.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Bristol as is comprised within the following lines, that is to say, a straight line drawn from the most westerly extremity of Swallow Point to the south-western extremity of the common boundary of the Ports of Newport and Bristol, and a line drawn thence and following the boundary of the Port of Bristol to its termination at the site of the Severn Tunnel, together with the waters,"* &c.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Bristol Urban Sanitary District.
St. George's Urban Sanitary District.
Portishead Urban Sanitary District.
Clevedon Urban Sanitary District.
Keynsham Rural Sanitary District. Parishes: Hanham, Bitton, Brislington, Keynsham, &c.
Bedminster Rural Sanitary District. Parishes: Bedminster. Long Ashton, Abbots Leigh, Easton in Gordano, Portbury, Portishead, Weston in Gordano, Walton in Gordano, Kingston Seymour.

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* See footnote, page 89, *ante*.

Barton Regis Rural Sanitary District. Parishes: Henbury, Shirehampton, and Westbury-upon-Trym.

Thornbury Rural Sanitary District. Parish of Northwick-with-Redwick.

Axbridge Rural Sanitary District. Parishes: Kewstoke and Wick St. Lawrence.

4. *Apportionment of Expenses:—*

The expenses are paid out of a common fund contributed to as under:—

Bristol Urban Sanitary Authority -	80 per centum.
Clevedon Urban Sanitary Authority -	2 per centum.
Portishead Urban Sanitary Authority -	4 per centum.
Barton Regis Rural Sanitary Authority	10 per centum.
Bedminster Rural Sanitary Authority -	4 per centum.]

Gloucester Port Sanitary District.

[Gloucester Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 21st, 1893.

Date of Order *temporarily* constituting Port Sanitary District: March 14th, 1893, renewing the Orders of March 15th, 1881, and October 20th, 1885.*

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Citizens of the City of Gloucester, acting by the Council." The Port Sanitary Authority discharges port functions in waters abutting upon the Gloucester, Wheatenhurst, Dursley, and Thornbury Rural Sanitary Districts, in addition to the Gloucester Urban Sanitary District.

2. *Limits of Jurisdiction:—*

"So much of the Port of Gloucester as lies within the limits of the Gloucester and Berkeley Canal, and the docks connected therewith . . . . . ."†

The limits of jurisdiction appear to be too restricted. An inquiry with reference to possible alteration in the area of Port Sanitary Authority's jurisdiction was held at Gloucester on January 17th, 1893.*

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Gloucester Urban Sanitary District.
Gloucester Rural Sanitary District. Parishes:—Quedgeley and Hempstead.
Wheatenhurst Rural Sanitary District. Parishes:—Frampton-on-Severn, Wheatenhurst, Fretherne-with-Saul, Moreton Valence, Haresfield, and Hardwick.
Dursley Rural Sanitary District. Parish:—Slimbridge.
Thornbury Rural Sanitary District. Parishes:—Berkeley and Hinton.*

4. *Apportionment of Expenses:—*

The constituent Authorities contribute towards the expenses in the following proportion:—
Gloucester Urban Sanitary Authority, fifty hundredths.
Gloucester Rural Sanitary Authority, fifteen hundredths.
Wheatenhurst Rural Sanitary Authority, seven hundredths.
Dursley Rural Sanitary Authority, three hundredths.
Thornbury Rural Sanitary Authority, twenty-five hundredths.*

5. *General Character and Efficiency of Administration:—*

Satisfactory.

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* See page 489, *post*. † See footnote, page 89, *ante*.

6. *Ports from whence Ships arrive :—*

(Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are indicated by *italics*) :—

FOREIGN.—*Black Sea and Sea of Azov. Baltic Ports generally. North Russian Ports. Hamburg. North and South America.* Havre, Rouen, Bordeaux, Brest, Lorient, and other north-west French ports ; also Marseilles, Rotterdam, Norway, *Sweden*, Egypt, India, and occasionally Australia, New Zealand.

COASTWISE.—*Bristol, Cardiff, Newport, Swansea, Llanelly, London*, Dublin, Cork, Wexford, Waterford, Belfast, and occasionally from most British ports.

7. *Character of Trade :—*

(Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—*Imports :* Grain from the Black Sea, Russia, Canada, India, and France. Timber from Norway, Sweden, the Baltic, and America. Sand and mosslitter from France. General cargoes and sugar from Hamburg and Rotterdam. Until December 1892 there was a considerable rag trade, but there being no arrangements for the disinfection of rags at Gloucester, this trade ceased under the Order of December 14th, 1892. No systematic passenger trade. No immigrants or transmigrants.

Exports : Salt. General cargoes.

COASTWISE.—*Imports :* Timber, coal, lime, cement, grain. No rag or regular passenger trade.

Exports : Salt.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessel.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	196	176,687	181	158,329	160	148,379
	Sailing	151	78,875	148	82,713	160	95,751
	Fishing	—	—	—	—	—	—
Total Foreign		347	255,562	329	241,042	320	244,130
Coastwise.	Steamers	111	14,650	91	16,111	96	9,393
	Sailing	1,262	75,471	1,240	72,961	1,283	75,385
	Fishing	—	—	—	—	—	—
Total Coastwise		1,373	90,121	1,331	89,072	1,379	84,778

No fishing vessels or boats registered at Gloucester, and no fishing trade.

9. *Inland Water Communication :—*

Barges go up the Severn to Stourport. From Worcester the traffic branches off along the Worcester and Birmingham and Shropshire Canals. A quantity of sugar from Hamburg is thus conveyed to Birmingham. Goods also go up the Stroud Canal to Stroud.

Canal boats stated to be regularly inspected by the Gloucester Urban Inspector of Canal Boats.

10. *Lines of Railway conveying Goods from Port :—*
Midland, Great Western, and Severn and Wye Railways.

11. *Medical Officer of Health :* John Campbell.
Qualifications :—M.D. Glasgow, L.R.C.P. and S., Edin. L.S.A. Salary, 50*l.* per annum with repayment.
Dr. Campbell also acts as Medical Officer of Health to the Gloucester Urban Sanitary District.
Character and efficiency of work done by Medical Officer of Health :—Satisfactory.

12. *Inspector of Nuisances :* Captain Calway.
Qualifications :—Ex-merchant captain. Salary, 10*l.* per annum with repayment. Captain Calway is also dockmaster at Sharpness.
Assistant Port Inspector of Nuisances: Frederick Reece (berthing master to Dock Company). Salary, 10*l.* Appointed April 14th, 1893.
Both these inspectors live at Sharpness.
Character and efficiency of work done by Inspectors of Nuisances :—
All vessels entering the port are stated to be inspected by one or other of these Port Inspectors of Nuisances, and a record of such inspections has been kept since May 20th, 1893. Book produced at inquiry.

13. *Nuisances :—*
Nuisances will no doubt be efficiently dealt with in future.
No record kept prior to May 20th, 1893.

14. *Isolation Hospital :—*
The Port Sanitary Authority possesses two wooden cholera hospitals, one at Sharpness and one at Gloucester. Both are conveniently situated for port purposes, the one at Sharpness being close to the dock, and that at Gloucester being but a short distance from the bank of the ship canal.
The Sharpness Hospital contains one ward, measuring 40′ × 21′ × 12′, one bedroom for caretaker or nurse, kitchen, pantry, &c. Water obtained from a well. Excrement disposal by W.C.'s. Drainage into tidal water by brick culvert which also receives drainage of public W.C.'s. and cottages. Additional ground could be obtained for hospital extension if required. Hospital only inclosed by open iron hurdles. It was erected in 1885.
The Gloucester Hospital contains one ward, measuring 40′ × 22′ × 12′, nurse's room, and kitchen. Excrement disposal by earth closets. No drainage. Water would be sent from the town. It is not specially inclosed, but stands in a grass field of considerable size, and is well removed from dwellings. It was erected originally in 1885, but removed to its present site in 1892.
Both hospitals are kept in readiness.

15. *Disinfecting Apparatus :—*
The Port Sanitary Authority possesses no disinfecting apparatus at either of its cholera hospitals. There is a hot-air disinfecting apparatus at Urban Sanitary Authority's hospital. But cholera-infected articles would be burnt.

16. *Mortuary* :—

No mortuary at either of the Port Sanitary Authority's cholera hospitals.

17. *Regulations under Section* 125 *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

1. King Road. 2. At the entrances to the two docks at Sharpness.

Places of Debarkation. The two docks at Sharpness; the docks at Gloucester; many wharves on the canal as high as Gloucester. All vessels from foreign are boarded at Sharpness and nearly all of them have also been previously boarded at King Road.* Boarding of foreign vessels the same by night as by day. Coasters boarded as time allows.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Vessels would be detained for 12 hours, if necessary, pending arrival of Port Medical Officer of Health.

Pilots licensed by, and under control of, a Gloucester Pilotage Board.

c. Arrangement for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Customs Officers would verbally inform the Port Inspector of Nuisances, who lives at Sharpness, and the latter would (if during the daytime) telegraph to the Port Medical Officer of Health. During the daytime the canal company's telephone would also be available. In the night there might be some difficulty, as Sharpness is 16 miles from Gloucester—a horse and cart would probably be sent.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

None, but boats could be obtained if required. Nearly all foreign coming vessels have already been boarded by the officers of the Bristol Port Sanitary Authority.

e. Mooring Station :—

The Port Sanitary Authority proposed to use King Road as a mooring station, and had obtained the sanction of the Bristol Port Sanitary Authority to its doing so. The Bristol Port Sanitary Authority would then deal with any vessels sent there on an agreed scale of fees. The Gloucester Port

* See *f.* next page.

Sanitary Authority originally intended to use Northwick Oase as a mooring station, but there seemed to be considerable difficulties in the way, hence the proposed substitution of King Road. Northwick Oase would be very inaccessible to the Gloucester Port Sanitary Authority's officers, being 11 miles distant from Sharpness by river, and 15 miles by road. The only means of mooring vessels there would, moreover, be at two buoys put down by the Gloucester Harbour Board for lightening vessels, and the Harbour Board strongly objected to their buoys being used for cholera purposes. Outside the buoys, the Harbour Master stated that there was no room for vessels to swing. Lastly the Collector of Customs at Gloucester was not disposed to sanction Northwick Oase as a mooring station.

f. Inspection of Vessels ("infected" or from "infected port") :—

Almost all vessels from "infected ports," bound for Gloucester, are, by arrangement, boarded in King Road by the officers of the Bristol Port Sanitary Authority, and if any such vessels were found to be "infected" they would be dealt with by the Bristol Authority. All vessels arriving at Sharpness are again boarded by the Gloucester Port Inspector of Nuisances, and if necessary by the Gloucester Port Medical Officer of Health.

This system is the result of an understanding arrived at in 1887 between the Gloucester and Bristol Port Sanitary Authorities, by which the latter undertook to inspect and deal with foreign coming vessels bound for Gloucester at a fixed scale of fees. The arrangement affords a very valuable outer line of defence to the Gloucester Port Sanitary District, the riparian functions of the Gloucester Port Sanitary Authority (quâ infectious disease) being thereby practically reduced to the detection of, and dealing with, any infectious disease which may declare itself on board vessels after their inspection by Bristol Port Sanitary Authority; and the inspection of, and dealing with, such vessels as have not been inspected by the Bristol Port Sanitary Authority.

The inspection of Gloucester bound vessels from "infected ports" is systematically carried out in King Road, and a clearance notice is forwarded to the Gloucester Port Sanitary Authority with respect to each vessel inspected by the Bristol Port Sanitary Authority's officers.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Sanitary Authority's officers in inspecting vessels, "infected" or from "infected ports," will in each case see the ship's articles and muster and examine all hands on board.

h. Address Book :—

No special address book kept.

i. Special Isolation Provision for Cholera :—

Two special hospitals, viz., one at Sharpness and one at Gloucester, each capable of accommodating five patients, allowing 2,000 cubic feet of air-space per patient.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons would be detained either on the vessel on which they arrived, or in hospital according to circumstances.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

The Port Sanitary Authority does not possess any boat, but patients could be landed direct from the ship to quay, for either hospital, and would thence be carried on a stretcher.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Cholera infected clothes would be burnt.
(*b.*) Sulphur fumigation. Corrosive sublimate solution.
(*c.*) None.

n. Arrangements made as to the Disposal of the Dead :—

None made.

o. Action as to Water Supply of Vessels from Infected Ports :—

In almost all instances vessels from infected ports have, on arrival at Gloucester, already been dealt with as regards drinking and bilge water by the officers of the Bristol Port Sanitary Authority. Any vessels not so dealt with would be required to pump out their drinking water on arrival at Sharpness—probably in tidal basin—their tanks would be cleansed and fresh water supplied by Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

The bilges of any vessels from infected ports not already dealt with at King Road would be pumped out at Sharpness—probably in the tidal basin, and cleansed with corrosive sublimate solution.

Final Conference with the Gloucester Port Sanitary Authority was held on August 10th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of proper laundry and mortuary accommodation at each of the Authority's existing hospitals.
2. The adoption of the Infectious Disease (Notification) Act, 1889.
3. The steps to be taken beforehand to secure, in the event of British Ports becoming infected by cholera, the medical inspection of vessels coming coastwise as well as from foreign.

In addition to the above formal recommendations the suitability of the arrangements for drainage at the Sharpness hospital was questioned; the Port Sanitary Authority was advised to procure an efficient disinfecting apparatus; to put the residence of the Port Medical Officer of Health at Gloucester in telephonic communication with that of the Port Inspector of Nuisances at Sharpness; and to appoint a Deputy Port Medical Officer of Health, resident in the neighbourhood of Sharpness, to act, if necessary, in case of emergency, pending the arrival of the Port Medical Officer of Health.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. It was resolved at a meeting of the Port Sanitary Authority on August 29th, 1893, that "the Surveyor be instructed to prepare "plans and estimates for providing a laundry and mortuary for "each of the hospitals of the Port Sanitary Authority." [Letter from the Port Sanitary Authority, dated September 9th, 1893, enclosing copy of extract from the Minutes.]
2. The Infectious Disease (Notification) Act, 1889, was adopted by the Port Sanitary Authority on September 26th, 1893, to come into force on November 1st, 1893. [Letter from the Port Sanitary Authority, dated October 24th, 1893.]
3. The Port Medical Officer of Health was requested to consider what further arrangements should be made, if need should arise, for the regular supervision and medical inspection of the coastwise vessels arriving at Sharpness. [Letter from the Port Sanitary Authority dated September 9th, 1893, above referred to.]

According to the letter last mentioned, the question of the drainage of the Sharpness Hospital was referred to the Surveyor, who was instructed to make a report after conference with the Engineer to the Canal Company. Telephonic communication between the residence of the Port Medical Officer of Health and Sharpness has been established, and arrangements have been made for the disposal of the cholera dead, either by cremation at the Crematorium of the Cardiff Port Sanitary Authority, or by interment in the Berkeley Cemetery, according to circumstances.

[Since the above report was written the Mayor, Aldermen, and Citizens of the city of Gloucester, have been *permanently* constituted a Port Sanitary Authority for this district, with an extended area of jurisdiction, by an Order dated June 11th, 1894, which came into operation on August 1st, 1894. As a result of this Order, sections 2, 3, and 4 of the report should now read as under :—

2. *Limits of Jurisdiction :—*

"So much of the said Port of Gloucester as comprises the Gloucester and Berkeley Ship Canal, and all docks and other works connected therewith, and as is included within the following limits; namely,—high-water mark in the several Parishes of Hinton, Hamfallow, Ham and Stone, Hill, Thornbury, Littleton-upon-Severn, Aust, and Northwick-with-Redwick; a straight line drawn from the most easterly extremity of the Canal docks to a point, in mid-channel of the River Severn, due north of the most northerly extremity of the Whinstone Rocks Beacon; a line drawn in mid-channel from the last-mentioned point to the most northerly point of the lighthouse on Saint Tecla's Chapel; and a straight line drawn from the last-mentioned point to the nearest point in the common boundary of the Customs Ports of Gloucester and Bristol: together with the waters. . . . ."* &c.

* See footnote, page 89, *ante*.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Gloucester Urban Sanitary District.

Gloucester Rural Sanitary District. Parishes:—Quedgeley and Hempsted.

Wheatenhurst Rural Sanitary District. Parishes:—Frampton-on-Severn, Wheatenhurst, Freherne-with-Saul, Moreton Valence, Haresfield, and Hardwick.

Dursley Rural Sanitary District. Parish:—Slimbridge.

Thornbury Rural Sanitary District. Parishes:—Hinton, Hamfallow, Berkeley, Ham and Stone, Hill, Thornbury, Littleton-upon-Severn, Aust, and Northwick-with-Redwick.

4. *Apportionment of Expenses:—*

The constituent Authorities contribute towards the expenses in the following proportions:—

Gloucester Urban Sanitary Authority, forty-five hundredths.
Gloucester Rural Sanitary Authority, fifteen hundredths.
Wheatenhurst Rural Sanitary Authority, seven hundredths.
Dursley Rural Sanitary Authority, three hundredths.
Thornbury Rural Sanitary Authority, thirty hundredths.]

Chepstow Port Sanitary District.

[Gloucester Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 16th, 1893.

Date of Order *permanently* constituting Port Sanitary District: September 22nd, 1887.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "The Chepstow Local Board." It exercises port functions in waters abutting upon the Chepstow Urban Sanitary District and the Chepstow Rural Sanitary District.

2. *Limits of Jurisdiction:—*

That part of the Port of Gloucester "consisting of the River "Wye and its tributaries, which lies to the north of a straight "line drawn from the site of the Old Watch-house at Beachley "to Mathern Pill; together with the waters,"* &c.

These limits are apparently satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Chepstow Urban Sanitary District.

Chepstow Rural Sanitary District. Parishes:—Mathern, St. Arvans, and Tidenham.

4. *Apportionment of Expenses:—*

The whole of the expenses are borne by the Chepstow Urban Sanitary Authority.

5. *General Character and Efficiency of Administration:—*

There is but little shipping in this district, but the Port Sanitary Authority appears, so far, to have taken practically no action for the proper supervision of such as there is.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*):—

Foreign. Next to no foreign trade. The last foreign vessel arriving here was a timber ship from Norway in 1891.

Coastwise. *Bristol* (one boat a week), Cardiff, Newport, Bridgewater. A number of excursion steamers from Ilfracombe, Weston-super-Mare, Clevedon, Bristol, and Cardiff.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Foreign.—*Imports:* Practically nil. When anything, timber or corn.

Exports: None.

Coastwise.—*Imports:* General cargoes. No rags. No passengers except on the excursion steamers.

Exports: Stone.

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* See footnote, page 89, *ante*.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—
(Lydney, including Chepstow).

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers -	—	—	—	—	—	—
	Sailing - -	—	—	1 Chepstow.	412	—	—
	Fishing -	—	—	—	—	—	—
Total Foreign -		—	—	1	412	—	—
Coastwise.	Steamers -	405	43,689	410	45,322	355	36,220
	Sailing - -	2,357	123,329	2,060	107,827	1,839	92,541
	Fishing -	—	—	—	—	—	—
Total Coastwise -		2,762	167,018	2,470	153,149	2,194	128,761

No registered fishing boats and no fishing trade. The coasting trade inwards is principally from Bristol district Ports, and Newport. The proportion of above coasting trade, so far as known to the Officer of Customs at Lydney, would be for *Chepstow* as under—Chepstow being included in above totals.

Chepstow :—

Shipping Inwards.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Coastwise	Steamers -	—	—	—	—	—	—
	Sailing - -	98	4,173	99	4,450	100	4,505
Total Coastwise -		98	4,173	99	4,450	100	4,505

9. *Inland Water Communication :—*

The Wye is navigable for vessels of 30 tons as far as Bigs Weir. Nothing but rowing boats go beyond this. The whole of the navigable Wye being presumably under the Port Sanitary Authority's jurisdiction, there is no inland water communication beyond the district.

10. *Lines of Railway conveying Goods from Port :—*

The Great Western Railway and the Wye Valley which is leased to the Great Western Railway.

11. *Medical Officer of Health :* Edward P. King.

Qualifications :—M.R.C.S., L.S.A. No salary. Mr. King also holds the appointment of Medical Officer of Health to the Chepstow Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—

The Medical Officer of Health appears to be conversant with the Cholera Orders of the Board, and prepared to carry them out.

12. *Inspector of Nuisances:* Josiah Herbert Atkins.

No sanitary certificate. No salary. Mr. Atkins also acts as Surveyor and Inspector of Nuisances to the Chepstow Urban Sanitary District.

Character and efficiency of work done by Inspector of Nuisances:—

The Port Inspector of Nuisances has apparently paid little or on attention to his Port duties, but he is apparently an intelligent officer, and undertakes to inspect vessels in future.

13. *Nuisances:*—

Vessels not systematically inspected. No record kept.

14. *Isolation Hospital:*—

An old stone-built house on the Chepstow bank of the Wye, originally a bark-house, converted into a "hospital" for small-pox purposes some years ago. It affords a fair amount of accommodation in point of quantity, but of an unsatisfactory and very uninviting character. It contains two "wards," each measuring 42′ × 15′ × 10′; two smaller rooms which could be used for nurses or patients; three rooms for caretaker who resides there, and a laundry. There is no proper drainage, and the main wards are deficiently ventilated. An old mourning coach is provided for ambulance purposes! Town water can, however, be obtained from a standpipe about 100 yards off, and the "hospital" is kept in readiness as as regards bedding, &c. Detached privy for caretaker. Commodes for patients.

15. *Disinfecting Apparatus:*—

None provided.

16. *Mortuary:*—

None, except a small shed with wooden floor, and corrugated iron roof built against the hospital wall. This shed is only about 9′ × 4′, and was at the time of inspection used as a tool-house.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

No Customs Officer or Coastguard stationed at Chepstow. But Chepstow is visited by Customs Officers from Lydney every quarter. A man residing at Chepstow is appointed Customs agent with instructions to inform the Principal Coast Officer at Lydney of the arrival of any ship from foreign or from Ireland. For every such notification he receives a shilling.

Places of debarkation:—Chepstow, Llanlant, Tintern, Brockweir, and Llandogo, and Bigsweir.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

If the Customs Officer received information of the arrival of any vessel from foreign, he would immediately proceed to Chepstow and board her. In the event of his suspecting her to be infected, he would detain her in the river and send for Port Medical Officer of Health. No registered Chepstow Pilots.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

By special messenger.

d. Means provided, or Facilities given, for conveyance of Medical Officers of Health to Ships :—

The Port Sanitary Authority possesses no boat, but a boat can always be obtained at Chepstow.

e. Mooring Station :—

Mooring station fixed at Mathern Oaze. This is just outside the Port Sanitary District, but in the Customs Port of Gloucester. The approval of the Chief Officer of Customs had not been obtained at the date of inspection.

f. Inspection of Vessels ("infected" or from "infected port") :—

Vessels from infected ports, should they arrive, would be inspected by the Port Medical Officer of Health.

The Port Medical Officer of Health has communicated with the local manufacturers, to whom any cargoes from foreign would come, and they have agreed to inform him if vessels bringing such cargoes should be likely to arrive at the port.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The ships' articles would be examined, and all hands counted and inspected.

h. Address Book :—

Addresses would be taken, but no special book kept.

i. Special Isolation Provision for Cholera :—

Old house on Chepstow bank of the Wye, with accommodation for some six patients and nurses. Very unsatisfactory.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Suspected cases would be detained for observation for 48 hours, if necessary, on board the vessel or in hospital.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) None. They would be burnt.

(*b.*) Sulphur fumigation. Corrosive sublimate solution for woodwork.

(*c.*) None.

n. Arrangements made for the Disposal of the Dead:—

The Urban Sanitary Authority is the Burial Board, and would reserve a portion of land for burial of the cholera dead.

o. Action as to Water Supply of Vessels from Infected Ports:—

Drinking water would be ordered to be pumped out in the river, and tanks cleansed with permanganate of potash. Fresh water would be supplied.

p. Action as to Bilges of Vessels from Infected Ports:—

Bilges would be ordered to be pumped out, and bilges cleansed with carbolic acid solution.

Final Conference with the Chepstow Port Sanitary Authority was held on September 6th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for the regular and thorough inspection of vessels entering the Port.
2. The provision of suitable mortuary accommodation.
3. The provision of proper means for the conveyance of the sick to hospital.
4. The adoption of the Infectious Disease (Notification) Act, 1889.
5. The steps to be taken beforehand to secure, in case of necessity, the medical inspection of *all* vessels entering the Port.

In addition to the above formal recommendations the unsatisfactory condition of the hospital was referred to, and the Port Sanitary Authority was urged to at least take measures to promote its cleanliness and render it fit for the reception of patients should need arise.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. The Port Inspector of Nuisances provided with a book for the purpose of recording inspections of shipping. [Annual Report of Port Medical Officer of Health for 1893.]
2. A stretcher procured. [Annual Report of Port Medical Officer of Health for 1893.]
3. The Infectious Disease (Notification) Act, 1889, adopted by the Port Sanitary Authority on November 6th, 1893, to come into force on February 1st, 1894. [Letter from the Port Sanitary Authority dated January 10th, 1894.]

The hospital whitewashed and rendered better fit for the reception of patients, and the services of a nurse obtained. [Annual Report of the Port Medical Officer of Health for 1893.]

Newport Port Sanitary District.

[Newport Customs Port (whole of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 15th, 1893.

Date of Order *permanently* constituting Port Sanitary District: May 9th, 1883.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Newport acting by "the Council." It discharges Port functions in waters abutting upon the Newport and Cardiff Rural Sanitary Districts in addition to the Newport Urban Sanitary District.

2. *Limits of Jurisdiction :—*

"The whole of the Port of Newport" [Order May 9th, 1883].

By the Treasury Warrant, dated December 20th, 1847, the limits of the Port of Newport are defined as commencing "at Redwick Pill, in the county of Monmouth, being the "western extremity of the Port of Chepstow, and continued "along the coast of the said county to the River Rumney, "which divides the counties of Glamorgan and Monmouth," and seawards to "the middle of the River Severn."

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Newport Urban Sanitary District.

Newport Rural Sanitary District. Parishes :—Redwick, Goldcliffe, Nash, St. Bride, Wentlooge, and Peterstone.

Cardiff Rural Sanitary District. Parish :—Rumney.

4. *Apportionment of Expenses :—*

The Urban Sanitary Authority contributes according to the rateable value of its district, and the Rural Sanitary Authorities contribute according to the rateable value of their riparian parishes.

5. *General Character and Efficiency of Administration :—*

Very fair, but the equipment of the Port Sanitary District is, in various particulars, defective.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which the Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

(*a.*) Foreign.—*Lorient*, *Bordeaux*, Havre, Rouen, Brest, Bayonne, La Rochelle ; *Bilbao*, *Hamburg*, *Rotterdam*,

Amsterdam, Antwerp, Bremen; the Baltic, *Norway and Sweden;* Mediterranean and Black Sea occasionally, Morocco, North and South America.

(*b.*) COASTWISE.—*London, Southampton, Liverpool, Dartmouth,* and occasionally from practically all English ports; *Dublin, Belfast, Cork, Waterford, Glasgow.*

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—*Imports.* Iron ore from Bilbao. Timber from the Baltic, France (pit props), and America; general cargoes; potatoes from Jersey. No rags. One passenger steamer each month to Ports on the River Plate. No other systematic passenger traffic, but the foreign trading vessels occasionally carry a few passengers. No immigrants or transmigrants.
Exports. Coal and iron.

COASTWISE.—*Imports.* Cattle from Cork. General goods. Most vessels come in ballast. Passenger steamers weekly with Cork; fortnightly with Glasgow, Belfast, and Greenock. Frequent excursion steamers to Weston-super-Mare, Lynmouth, and Ilfracombe in the summer.
Exports. Coal.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	932	768,572	830	663,018	753	664,097
Foreign { Sailing	482	157,798	319	110,517	367	112,160
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	1,414	926,370	1,149	773,535	1,120	776,257
Coastwise { Steamers	2,570	803,443	2,851	773,886	3,066	885,742
Coastwise { Sailing	3,906	300,299	4,015	311,523	4,203	284,731
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	6,476	1,103,742	6,866	1,085,409	7,269	1,170,473

No fishing vessels come to Newport from other ports, and the fishing trade of the Port is a local one and of trifling importance.

A few fishing vessels of small tonnage (in 1890, 12 vessels, in 1891, 12 vessels, and in 1892, 11 vessels) belong to, and are registered at the Port; and these are, occasionally, employed in fishing in the vicinity of the entrance to the River Usk.

9. *Inland Water Communication :—*

Only the Monmouthshire Canal to Brecon. Nothing goes up this but a little general merchandise from Bristol vessels. What few canal boats there are are said to be regularly inspected by the Urban Canal Boats Inspector.

10. *Lines of Railway conveying Goods from Port :—*

Great Western, London and North-Western, Midland, and Brecon and Merthyr Tydfil Railways.

11. *Medical Officer of Health:* Benjamin Davies.

Qualifications:—M.D. Edin., F.R.C.S. Eng., L.S.A., D.P.H. Salary, 50*l.* per annum with repayment.

Dr. Davies also holds the appointment of Medical Officer of Health to Urban Sanitary District of Newport.

A temporary Assistant Port Medical Officer of Health (Robert John Paton, M.B.C.M. Edin.) was appointed April 25th, 1893, for special cholera purposes, at fees of 2*l.* 2*s.* for each visit to a vessel at the mooring station, and 1*l.* 1*s.* for every visit to a vessel at the boarding station.

Character and efficiency of work done by Medical Officers of Health:—Good.

12. *Inspector of Nuisances:* Thomas Roberts.

Qualifications:—No sanitary certificate. Salary, 104*l.* per annum with repayment. Formerly Assistant Inspector of Nuisances to the Urban Sanitary District. No previous seafaring experience. Holds no other office.

Character and efficiency of work done by Inspector of Nuisances:—

The Port Inspector of Nuisances is apparently an intelligent and painstaking officer.

13. *Nuisances:*—

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	295	113	113
		Sailing	165		
		Fishing	—		
		Total Foreign	460	113	113
	Coastwise.	Steamers	109	34	34
		Sailing	182		
		Fishing	—	—	—
		Total Coastwise	291	34	34
1891	Foreign	Steamers	1,010	284	284
		Sailing	424		
		Fishing	—	—	—
		Total Foreign	1,434	284	284
	Coastwise.	Steamers	184	59	59
		Sailing	511		
		Fishing	—	—	—
		Total Coastwise	695	59	59

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	680	257	257
		Sailing	416		
		Fishing	—	—	—
	Total Foreign		1,096	257	257
	Coastwise.	Steamers	204	73	73
		Sailing	430		
		Fishing	—	—	—
	Total Coastwise		634	73	73

14. *Isolation Hospital :—*

The Port Sanitary Authority possesses a special Cholera Hospital, erected in 1885. It is situated outside and to the south of the town, and, as the crow flies, only some 550 yards from the main dock. By road, however, it is about a mile from this dock and 1½ miles from the boarding station. It would be possible to carry a patient on a stretcher direct from the dock, but the footpath is very rough, and it is doubtful whether it would be allowed to be used for cholera purposes. This hospital consists of a single detached ward built of wood and match-boarded internally. The roof is covered with felt. This ward measures 26′ × 26′ × 14′. Ventilation by opposite windows and a Boyle's extractor in the roof. Warming by hot-water pipes. The ward contains two bedsteads, bedding, &c., and is kept in readiness. For administrative purposes there is a small two-roomed cottage on the site, in which is situated the boiler for warming the ward. A privy with a flagged floor has been erected against the ward for the use of caretaker, nurses, &c. Bed-pans would be used for the patients. There is no drainage. Cholera excreta and slops would be disinfected and buried. Water supplied by cart from the town. The site is enclosed on three sides by a close wooden fence over six feet high, and on the fourth side by a high hedge. There is some room for extension on the site, and adjoining land could no doubt be had if required. The hospital is well removed from dwellings and would be approached from the main docks without going through the town. In addition to the Cholera Hospital, the Port Sanitary Authority possesses three old houses which are used for Port hospital purposes, but it is not proposed to use them for cholera. These houses are situated in the town between the town's yard and the Eastern Valley Railway. They contain eleven small rooms which would be available for patients, the largest, however, contains only about 2,500 cubic feet of air space. Outbuildings at the back are used for mortuary and laundry purposes. The town water is laid on. Drainage to the town sewers. Hand-flushed w.c.s are provided in the yard and commodes for the use of patients in the wards. In various

respects this hospital is open to criticism. It is, however, kept in readiness.

The Port Sanitary Authority possesses a good horse-ambulance, which is kept at the town's yard.

15. *Disinfecting Apparatus :—*

None. At the Port Hospital in the town, described above, the Port Sanitary Authority has a "cremator," which consists of half an old steam boiler fitted with a funnel and bars along its centre. Infected articles are burnt in this. Cholera-infected articles would be burnt in the grounds of the cholera hospital.

16. *Mortuary :—*

No mortuary at the cholera hospital or elsewhere for cholera purposes.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Adopted December 10th, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The entrance to the Alexandra Dock. Boarding of foreign-coming vessels carried out by night as by day. Coastwise vessels boarded at their moorings as time allows. Formerly the Alexandra Dock was the lowest place of debarkation on the river. Quite recently, however, the New dock has been opened, and it is a question whether, when the new entrance to that dock comes into use, the boarding station will not be moved down there. The places of debarkation in this district consist of the Alexandra Dock, the Old Dock, the New Dock, and numerous wharves on the river. The New Dock is at present entered through the Alexandra Dock. A separate entrance lower down the river has, however, been constructed and will doubtless soon be opened. All vessels from foreign are at present boarded at the entrance to the Alexandra Dock, where three Preventive Officers and 14 Boatmen are stationed. One Preventive Officer and three Boatmen are also stationed at the Old Docks and have charge of that dock, and the wharves above, for the purpose of general supervision, re-rummaging, &c. The wharves between the Old Dock and the Alexandra Dock are under the supervision of the Customs' Staff at the latter dock. There are no wharves or pills at which any shipping trade is carried on in Port Sanitary Authority's district, except those in the River Usk.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Infected or suspected vessels would be detained for 12 hours, if necessary, pending the arrival of the Port Medical Officer of Health.

Pilots are licensed by the Newport Pilotage Commission, and a special notice with respect to precautionary measures to be

adopted in the case of infected vessels and vessels from infected ports, was distributed in the autumn of 1892 among pilots by the Clerk to the Pilotage Commission.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

Special messenger. Telephone also available by day. At night, however, a special messenger could walk from the boarding station to Assistant Port Medical Officer of Health's residence in half an hour.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority possesses no boat of its own, but tugs are always available. Should cholera on the Continent notably increase, it was stated that a tug would be hired to go out with Port Sanitary Authority's officers on every tide to meet vessels from infected ports.

e. Mooring Station :—

Near the lightship at a spot known locally as the "Spit." This mooring station is just within the Newport Customs' Port and Port Sanitary District, and is approved of by the Collector of Customs.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Sanitary Authority is relying, as regards vessels arriving at night, on the preliminary interrogation by the Customs, but the Port Inspector of Nuisances meets all vessels arriving from French ports during the daytime, and revisits them every day during their stay in Port. The Port Medical Officer of Health and the Assistant Port Medical Officer of Health do not go unless sent for.

g. Examination of Persons on Vessels ("infected" or from "infected ports") :—

On boarding any "infected" vessel the Port Medical Officer of Health or the Assistant Port Medical Officer of Health would see the articles and the log, and muster, count, and examine all hands on board. Vessels from "infected ports" will be treated in a similar manner when it is considered requisite.

h. Address Book :—

Address book kept.

i. Special Isolation Provision for Cholera :—

Cholera hospital for four patients.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons would be detained for observation for 48 hours, if necessary, either on the vessel on which they arrived or in the cholera hospital, according to circumstances.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

The Port Sanitary Authority possesses no boat, but would hire a tug if required. It has the use of Urban Sanitary Authority's hand-ambulance.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Clothes would be burnt.
(*b.*) Sulphur fumigation and swabbing with carbolic-acid or corrosive sublimate solution.
(*c.*) None.

n. Arrangements made as to the Disposal of the Dead :—

None made. Burial at sea would, probably, be resorted to.

o. Action as to Water Supply of Vessels from Infected Ports :—

Drinking water of vessels from infected ports ordered to be pumped out before entering the docks. This was at the time of inspection being attended to by the Port Inspector of Nuisances during the day, and by co-operation of Customs officers at night. Tanks ordered to be cleansed with lime and fresh water supplied by the Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges during 1892 were ordered to be pumped out in the Channel, and cleansed with carbolic acid solution. Ballast water was also ordered to be changed in the Channel. This was not at the time of inspection being carried out regularly, as vessels were not then being met in the Channel, and there is not time when they arrive at the boarding station to pump out all their bilge water before coming into dock.

Final Conference with the Newport Port Sanitary Authority was held on August 16th, 1893, when formal recommendations were made with regard to the following matters :—

1. The necessity for supplementing the provision made for the isolation of cholera patients.
2. The adoption of regulations under Section 125 of the Public Health Act, 1878.
3. The necessity for arrangements being made to secure the medical inspection of all vessels from "infected ports."
4. The steps to be taken beforehand to secure, in the event of British Ports becoming infected by cholera, the medical inspection of vessels coming coastwise as well as from foreign.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION :—

1. Isolation accommodation for cases of cholera augmented by the acquisition of a large tent, and the services of two men, formerly in the Army Hospital Corps, retained for nursing purposes. [Annual Report of Port Medical Officer of Health for 1893.] Mortuary provided at, and a water service being laid on to, the hospital, and the erection of a laundry to be proceeded with at once. [Letter from the Port Sanitary Authority, dated August 22nd, 1893.]

The mortuary, which is situate in the grounds of the cholera hospital, was completed at the time of the final conference, and consists of a corrugated iron building with a concrete floor. [Inspector.]

2. Regulations under Section 125 of the Public Health Act, adopted by the Port Sanitary Authority and sent to the Board for approval. [Letter above referred to from the Port Sanitary Authority.]

3 and 4. "Every vessel from an infected port was visited before she was allowed to enter the docks," a tug boat being placed at the disposal of the Port Medical Officer of Health for Channel service. [Annual Report of the Port Medical Officer of Health for 1893.]

Every vessel from an "infected port" was visited, and the drinking water pumped out before she was allowed to enter the docks. The ballast water in the case of steamers was discharged in the Channel. [Annual Report of the Port Medical Officer for 1894.]

Cardiff Port Sanitary District.

[Cardiff Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 14th, 1893.

Date of Order *permanently* constituting Port Sanitary District: April 8th, 1882.

1. *Constitution of Port Sanitary Authority:—*

   The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Cardiff acting by the Council."

   The Port Sanitary Authority discharges port functions in waters abutting upon the Penarth Urban and Cardiff Rural Sanitary Districts in addition to the Cardiff Urban Sanitary District.

2. *Limits of Jurisdiction:—*

   "So much of the Port of Cardiff as lies between the River Rumney and Lavernock Point; together with the waters,"* &c.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

   Cardiff Urban Sanitary District.
   Penarth Urban Sanitary District.
   Cardiff Rural Sanitary District. Parish:—Lavernock, part of.

4. *Apportionment of Expenses:—*

   Expenses defrayed out of a common fund contributed to by the Cardiff and Penarth Urban Sanitary Authorities according to the rateable value of their districts, and by the Cardiff Rural Sanitary Authority, according to the rateable value of the rural parish which abuts upon that part of the Port which is in the Port Sanitary District.

5. *General Character and Efficiency of Administration:—*

   Good.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*):—

   FOREIGN.—*Bordeaux, Havre, Rouen, Brest, Lorient, Hamburg, Antwerp, Rotterdam, Baltic ports generally, Norway and Sweden.* Also other French, German, and Belgian Ports, Spain, America, Australia, India, and occasionally from the Black Sea and Mediterranean.

   COASTWISE.—All British Ports occasionally, but chiefly *Bristol, London, Liverpool,* and *Hull.* Also Dublin, Cork, Belfast, Glasgow, Greenock, and Leith.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

   FOREIGN.—*Imports:* Grain from North America and the Black Sea. Timber from America and the Baltic. Iron ore from Bilbao. Potatoes from the north-west of France. Fruit

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* See footnote, page 89 *ante*; also see page 510 *post*, as to recent extension of the district.

from Rotterdam. General cargoes. No systematic passenger trade. No immigrant or transmigrant traffic. Occasional cargoes of rags.

Exports: Coal.

COASTWISE.—*Imports:* General cargoes; potatoes from Ireland.

Exports: Coal, iron rails.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	2,390	2,039,629	2,402	2,055,929	2,551	2,137,951
	Sailing	1,036	465,017	1,048	497,864	896	410,571
	Fishing*	—	—	—	—	—	—
Total Foreign		3,426	2,504,646	3,450	2,553,793	3,447	2,548,522
Coastwise	Steamers	8,800	3,206,804	9,379	3,198,848	8,770	2,532,527
	Sailing						
	Fishing*	—	—	—	—	—	—
Total Coastwise		8,800	3,206,804	9,379	3,198,848	8,770	2,532,527

* No separate record of fishing boats kept. No fishing boats arrive from foreign. There are 15 fishing vessels [total tonnage 187] on the register. They are employed on the coast.

9. *Inland Water Communication :—*

Barges, which are regularly inspected by the Cardiff Urban Canal Boats Inspector, go about a mile up the Glamorganshire Canal to bring down patent fuel for shipment. No traffic up the Rivers Rumney, Taff, or Ely.

10. *Lines of Railway conveying Goods from Port :—*

Great Western Railway. Also the Taff Vale, Rhymney, London and North-Western, and Midland Railways.

11. *Medical Officer of Health:* Edward Walford.

Qualifications :—M.D. Dur., M.R.C.S. Eng., L.S.A. Lon., and D.P.H. Camb. Salary, 200*l.*, without repayment. Dr. Walford also holds the appointment of Medical Officer of Health for the Cardiff Urban Sanitary District.

Temporary Assistant Port Medical Officer of Health [William Habgood, M.D., Brux., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., also D.P.H., Lond.] appointed May 1st, 1893, at a salary of 3*l.* 3*s.* per week for at least five months. Dr. Habgood gives his whole time to port work, and practically lives on the steamer, being provided, however, with rooms in the small hotel on the Flat Holm.

Character and efficiency of work done by Medical Officers of Health :—

Highly efficient.

12. *Inspector of Nuisances:* David Jenkins.

Qualifications :—Certificate of Sanitary Institute. [Previously in Trinity Service and afterwards in service of Board of Trade as Out-Door Officer.] Salary, 91*l.* and house rent, without repayment.

Assistant Port Inspector of Nuisances, Frederick Reece, at salary of 30*s.* a week.

Assistant Port Inspector of Nuisances, Stephen Holbourn (Certificate of Sanitary Institute), at a salary of 30*s.* a week. [Ex-Assistant Inspector of Nuisances in Urban District.]

All three Port Inspectors of Nuisances give their whole time to the work. During the danger of cholera in 1893 this staff was supplemented by the temporary employment, on port duty, of two Urban Inspectors of Nuisances.

Character and efficiency of work done by Inspectors of Nuisances:—

Very good.

13. *Nuisances*:—

Vessels intelligently inspected and nuisances efficiently dealt with.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	714	72	72
		Sailing	553	49	49
		Fishing	—	—	—
		Total Foreign	1,267	121	121
	Coast-wise	Steamers	314	24	24
		Sailing	159	11	11
		Fishing	—	—	—
		Total Coastwise	473	35	35
1891	Foreign	Steamers	709	169	169
		Sailing	578	77	77
		Fishing	—	—	—
		Total Foreign	1,287	246	246
	Coast-wise	Steamers	369	79	79
		Sailing	208	27	27
		Fishing	—	—	—
		Total Coastwise	577	106	106
1892	Foreign	Steamers	1,581	279	279
		Sailing	786	179	179
		Fishing	—	—	—
		Total Foreign	2,367	458	458
	Coast-wise.	Steamers	1,168	192	192
		Sailing	1,067	162	162
		Fishing	6	1	1
		Total Coastwise	2,241	355	355

14. *Isolation Hospital:—*

The Port Sanitary Authority possesses a small permanent cholera hospital on the Flat Holm Island, the whole of which island, except certain small portions occupied by the Government for forts and a lighthouse, the Port Sanitary Authority has on lease. The hospital consists of a stone building which was converted into a hospital about four years ago. It contains one ward measuring about 26′ × 12′ × 12′ and a small nurses' duty room fitted with store cupboard, cooking stove, sink, &c. Water would be sent each day from Cardiff in the Port Sanitary Authority's steamer. Drainage into cesspool. Earth closet for excrement disposal. In point of construction, the hospital is fairly satisfactory, but it is very limited in extent. The Port Sanitary Authority has, however, provided, for use as an additional ward in case of need, a good double marquee with boarded floor, which it is considered would accommodate some eight patients. Sufficient administrative accommodation is available at a small hotel on the Island, which the Port Sanitary Authority also has on lease. This has been sub-let with the grazing on the condition that the tenant at once hands it over to the Port Sanitary Authority if required for hospital purposes. With the exception of this hotel, a small artillery barrack, and the lighthouse, there are no other dwellings on the island, which is 50 acres in extent. For general port purposes, the Port Sanitary Authority also has two wards at its disposal in connexion with the "Hamadryad" hospital ship. But these wards it is not proposed to use for cholera cases.

15. *Disinfecting Apparatus:—*

The Port Sanitary Authority has the use of, and does use on a considerable scale, the Urban Sanitary Authority's hot-air chambers. Of these there are two, viz., a Ransom's gas chamber, and a larger chamber heated by a coke furnace. They are situate at Working Street, in Cardiff. A Washington Lyon's apparatus is now being erected at the new Urban Isolation Hospital about a mile from the centre of the town. A Crematorium, which will be used for the destruction of cholera-infected clothing, &c., is about to be constructed on the Flat Holm.

16. *Mortuary:—*

There is no mortuary on the Flat Holm, but one is to be erected in connexion with the Crematorium.

17. *Regulations under Section* 125, *Public Health Act,* 1875:—

Regulations approved October 26th, 1885.

18. *Infectious Disease* (*Notification*) *Act,* 1889:—

Adopted November 9th, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

The basins at the entrances to the Cardiff and Penarth Docks. Boarding by night as by day for foreign vessels. Coasting

vessels occasionally boarded in the Docks as time allows, but questions as to health not put.

Places of debarkation. *Cardiff.* East Bute Dock, West Bute Dock, Roath Dock, and Glamorgan Canal. *Penarth.* Penarth Dock, and Ely Harbour. Boarding officers attend the East and West Bute Docks, Roath Dock, Glamorganshire Canal and Penarth Dock at each tide. Vessels cannot come in at other times. Ely Harbour is under the charge of officers at Penarth Dock. During the autumn of 1892, the Port Sanitary Authority hired a steam tug for the purpose of boarding vessels in the Channel, owing to the unsatisfactory situation, quâ cholera, of the Customs Boarding Stations. In order to meet the requirements of the Quarantine Act, the Customs told off an officer to accompany this tug. The Port Sanitary Authority, however, now find it more convenient to keep their tug continuously out in the Channel, she coming in only every 24 hours to change crews. There is no Customs Officer on board, but she is boarded by the Customs for revenue purposes each time she returns.

b. Arrangements as to detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Vessels would be detained in the basin for 12 hours, if necessary, until inspected by the Port Medical Officer of Health. Practically, however, vessels would not be likely, in cholera times, to arrive at the basin until they had already been dealt with by the Port Medical Officer of Health.

Pilots licensed by the Cardiff Pilotage Board acting under special Acts of Parliament. A notice having reference to precautionary measures to be taken in the case of "infected" vessels and vessels from "infected ports," has been issued to Pilots by the Port Sanitary Authority with the knowledge of the Pilotage Board.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

Special messenger. Telephone available during the day.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority has hired a steam tug at a cost of 30*l.* a week including crew, coal, and the efficient working of the ship.

e. Mooring Station :—

Mooring station fixed at a spot half a mile N. E. of the Flat Holm in the seven fathom water. This is within the Cardiff Customs Port and Port Sanitary District, and has been approved by the Collector of Customs.

f. Inspection of Vessels ("infected" or from "infected ports") :—
All vessels from infected ports are medically inspected.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health or the Assistant Port Medical Officer of Health examines the ships' articles and musters and examines all hands on board.

h. Address Book :—

Address book kept.

i. Special Isolation Provision for Cholera :—

Hospital on Flat Holm Island (see 14 above).

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons would be detained on the vessel for observation for 48 hours if necessary.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

Steam tug. A deck cabin is being erected in which there will be a swinging stretcher.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Clothes will be burnt in the crematorium.
(*b.*) Sulphur fumigation and swabbing with solution of perchloride of mercury.
(*c.*) None.

n. Arrangements made for the Disposal of the Dead :—

The Port Sanitary Authority proposes to cremate the cholera dead on the Flat Holm.

o. Action as to Water Supply of Vessels from Infected Ports :—

Drinking water on such vessels is ordered to be pumped out in the channel and the tanks are cleansed with permanganate of potash solution. Fresh water is supplied by the Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilge and ballast water are ordered to be pumped out in the channel and the bilges are cleansed with sulphate of iron.

Final Conference with the Cardiff Port Sanitary Authority was held on August 18th, 1893, when the only formal recommendation made had regard to the steps to be taken beforehand to secure, in the event of British Ports becoming infected by cholera, the medical inspection of vessels coming coastwise as well as from foreign.

In addition to the above recommendation the Port Sanitary Authority was advised to erect a landing stage at the Flat Holm Island to facilitate the landing of patients there.

Action taken by the Port Sanitary Authority since Inspection.

During the danger of cholera in 1893 the medical inspection of all vessels from British, as well as from foreign, infected ports, was carried out both by night and by day. [Letter from the Port Sanitary Authority, dated September 20th, 1893.]

A crematorium, with a mortuary and post-mortem room adjoining it, has been erected on the Flat Holm Island. [Annual Report of the Port Medical Officer of Health for 1893.]

Since the above Report was written an order dated July 26th, 1894, which came into force on September 29th, 1894, has been issued, reconstituting the Mayor, Aldermen, and Burgesses, the permanent Port Sanitary Authority for this district, but with an extended area of jurisdiction.

As a result of that order, section 2 of this Report should be read as under:—

2. *Limits of Jurisdiction:*—

"So much of the Port of Cardiff as is comprised within the following lines; that is to say,—

A straight line drawn due south from the seaward extremity of the common boundary of the parishes of Sully and Lavernock to the boundary of the said Port, and a line following and coincident with the boundary of the said Port from its commencement at the River Rumney to the point at which the straight line firstly herein-before mentioned meets such boundary; together with the waters. . . ,"* &c.

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* See footnote, page 89, *ante*.

Barry and Cadoxton Port Sanitary District.

[Cardiff Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 30th, 1893.*

Date of Order *permanently* constituting Port Sanitary District: July 27th, 1893.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "the Barry and Cadoxton Local Board." It exercises port functions in waters abutting upon the Urban Sanitary District of Barry and Cadoxton, and upon the Rural Sanitary Districts of Cardiff and of Bridgend and Cowbridge.

2. *Limits of Jurisdiction:—*

"So much of the Port of Cardiff as is comprised within the following lines: that is to say,—a straight line drawn due south from the seaward extremity of the common boundary of the Parishes of Sully and Lavernock to the boundary of the said Port; a straight line drawn due south from the seaward extremity of the common boundary of the Parishes of St. Athan's and Llantwit Major to the boundary of the said Port, and a line coincident with that part of the boundary of the said Port which lies between the points at which the straight lines hereinbefore mentioned meet such boundary; together with the waters," &c.†

The limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Barry and Cadoxton Urban Sanitary District.
Cardiff Rural Sanitary District. Parishes:—Sully, Porth Kerry, and Penmark.
Bridgend and Cowbridge Rural Sanitary District. Parishes:—St. Athan and Gileston.

4. *Apportionment of Expenses:—*

The Urban Sanitary Authority in proportion to the rateable value of the Urban District.
The Rural Sanitary Authorities in proportion to the rateable values of the contributory places which abut upon the Port Sanitary District.

5. *General Character and Efficiency of Administration:—*

Good.

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* At the date of inspection this was an Urban (Riparian) Sanitary District, but it was shortly afterwards permanently constituted a Port Sanitary District and the report has been amended accordingly.

† See footnote, page 89, *ante*.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which the Port Sanitary District has most trade, or is in most frequent communication, are indicated by *italics*) :—

FOREIGN.—*France* (*Rouen*, *St. Malo*, Havre, St. Nazaire, Brest, Bordeaux, and occasionally Marseilles), *Germany* (*Hamburg*, Bremen, Bremerhafen), *Holland* (*Rotterdam* and *Amsterdam*), Belgium (*Antwerp*), *the Mediterranean*, Norway and Sweden, Spain, Portugal, Canada, India, Baltic and Black Sea occasionally.

COASTWISE.—*Liverpool*, *Dundee*, *Greenock*, *Dublin*, *Belfast*, *Falmouth*, and *London*; also the Bristol Channel Ports generally, and occasionally for many other British ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN :—

Imports.—Timber from France, the Baltic, and Canada. No systematic passenger trade. No immigrants or transmigrants. No rags.

Exports.—Coal.

COASTWISE :—

Imports.—Bricks and cement. No passengers. No rags.

Exports.—Coal.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	530	548,682	718	741,637	724	801,867
Foreign { Sailing	143	143,645	140	149,709	152	187,356
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	673	692,327	858	891,346	876	989,223
Coastwise { Steamers	872	745,955	1,036	917,983	1,511	1,069,988
Coastwise { Sailing						
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	872	745,955	1,036	917,983	1,511	1,069,988

There are no vessels at Barry exclusively engaged in fishing.

9. *Inland Water Communication :—*

None.

10. *Railways conveying Goods from Riparian District :—*

Barry Railway and Taff Vale Railway.

11. *Medical Officer of Health :* George Neale.

Qualifications :—L.R.C.P. and L.R.C.S. Edin. Salary, 75*l.* with repayment.

Mr. Neale also holds the appointment of Medical Officer of Health to the Barry and Cadoxton Urban Sanitary District.

Mr. J. C. King, M.R.C.S. Eng. and L.R.C.P. Lond. (private assistant to Medical Officer of Health) was appointed July 1st, 1893, to act as Deputy Medical Officer of Health in cases of emergency or during the temporary absence of the Medical Officer of Health. No salary.

Character and efficiency of Port work done by the Port Medical Officer of Health:—Good.

12. *Inspector of Nuisances:* Alfred Leyshon.

Qualifications:—No sanitary certificate. Inspector Leyshon formerly served 21 years in Her Majesty's 41st Regiment and subsequently 11 years as Inspector of Nuisances to the Cardiff Urban Sanitary District, where he took his turn of Port work. Salary, 105*l.* with repayment. He now ordinarily also acts as Inspector of Seamen's Lodging Houses and Inspector under the Food and Drugs Act. At the time of inspection he was, however, devoting his whole time to Port work.

Assistant Inspector of Nuisances: S. B. Somerfield. No sanitary certificate. Salary, 30*s.* per week.

Character and efficiency of Port work done by Inspectors of Nuisances:—Good.

13. *Nuisances:*—

Vessels intelligently inspected and nuisances dealt with.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	No account kept for this period. Present Inspector of Nuisances not then in office.		
		Sailing			
		Fishing			
		Total Foreign			
	Coastwise.	Steamers			
		Sailing			
		Fishing			
		Total Coastwise			
1891*	Foreign	Steamers	79	9	9
		Sailing	54	2	2
		Fishing	—	—	—
		Total Foreign	133	11	11
	Coastwise.	Steamers	68	6	6
		Sailing	56	3	3
		Fishing	—	—	—
		Total Coastwise	124	9	9

* The figures given for 1891 refer only to the five months August to December. Present Inspector of Nuisances only entered on his duties in August.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	274	16	16
		Sailing	62	6	6
		Fishing	—	—	—
		Total Foreign	336	22	22
	Coastwise.	Steamers	380	12	12
		Sailing	108	10	10
		Fishing	—	—	—
		Total Coastwise	488	22	22

14. *Isolation Hospital:—*

The Barry and Cadoxton Port Sanitary Authority relies upon a wooden hospital in the Urban District. This is fairly well situated for port purposes, being about 1,000 yards from the dock. Patients could be brought to it without passing near any dwellings, and the Sanitary Authority has specially provided a St. John's ambulance which can either be carried or used on wheels. This hospital was erected about nine years ago for use as offices, and was converted into a hospital in 1890. It contains three wards, each measuring 14′ × 14′ × 10′, a nurses' duty room, and kitchen. Annexed to it there is a small washhouse fitted with a copper. Water is supplied from the Dock Company's mains. Watercloset for excrement disposal. Drainage into a pipe storm-water drain which discharges into a tidal brook. There is room for extension on the site, and the Sanitary Authority possesses a double tent, which will be erected if necessary. Hospital kept in readiness. The provision of a special Port hospital is in contemplation.

15. *Disinfecting Apparatus:—*

The Urban Sanitary Authority possesses a Teale's dry-heat apparatus, which is heated by gas. It is, however, kept at the town's yard, and not suitably situated for port purposes. Cholera-infected articles would be burnt.

16. *Mortuary:—*

Mortuary at the town's yard, but not suitably situated for port purposes.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

None made.

18. *Infectious Disease (Notification) Act*, 1889:—

Adopted by the Urban Sanitary Authority August 12th, 1890. Measles was added at the date of adoption, but has since been withdrawn.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

Vessels are interrogated at the pier head, but not actually boarded until they enter the dock. Places of debarkation only the docks. Vessels from foreign are boarded by night as by day. Coasters boarded occasionally as time allows.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguards, and by Pilots:—

Vessels would be detained for 12 hours, if necessary, pending arrival of Medical Officer of Health.

Pilots licensed by the Barry Pilotage Board. Instructions with respect to precautionary measures to be taken in the case of "infected" vessels, or vessels from "infected ports," have been distributed to the pilots by the Barry Dock Company.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health:—

Telegraph by day. Special messenger by night.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships:—

At the time of inspection the Sanitary Authority was relying upon ability to hire a boat when required. An arrangement had, however, been made for the hire of a steam tug at 24 hours' notice at a cost of 18*l.* a week, and it was agreed at the conference with the Board's Inspector that this tug should be employed from Monday, July 3rd, 1893.

e. Mooring Station:—

Mooring station fixed between Sully Island and Bendrick Rock. This has been approved by Chief Officer of Customs at Barry, and is within the Port Sanitary District.

f. Inspection of Vessels ("infected" or from "infected port"):—

Up to the time of the Inspector's visit the Inspector of Nuisances attended at the pier head at each tide and there interrogated vessels, afterwards boarding them immediately on their arrival in the dock. This applied to both foreign and coastwise vessels. In the autumn of 1892 the Urban Sanitary Authority hired a tug and the Inspector of Nuisances went out with her at each tide and boarded all vessels coming to Barry in the Roads. The Medical Officer of Health also boarded all vessels from infected ports.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

In the case of all infected vessels and vessels from infected ports the ship's articles and log will be consulted and all hands mustered and medically examined.

h. Address Book:—

Address book kept.

i. Special Isolation Provision for Cholera :—

Cholera hospital described under 14 above, and marquee ready for erection if required.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such person would be detained either in hospital or on board the vessel on which they arrived, according to circumstances.

l. Means provided for transfer of Infected Persons from Ship to Hospital :—

After July 3rd, 1893, it was said the tug about to be hired by the Sanitary Authority would be used for conveyance of patients by water. For their conveyance by land a St. John's ambulance has been provided.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Cholera infected clothes will be burnt.
(*b.*) Sulphur fumigation and corrosive sublimate solution.
(*c.*) None.

n. Arrangements made as to the Disposal of the Dead :—

None made at the time of inspection.

o. Action as to Water Supply of Vessels from Infected Ports :—

Drinking water on all vessels from infected ports will be pumped out before entering the dock; tanks cleansed with permanganate of potash solution and fresh water supplied by the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges will be pumped out before vessels are allowed to enter the dock and cleansed with carbolic acid solution.

Final Conference with the Barry and Cadoxton Port Sanitary Authority was held on August 17th, 1893, when the only formal recommendation made had regard to the steps to be taken beforehand to secure, in the event of British ports becoming infected by cholera, the medical inspection of vessels coming coastwise as well as from foreign. In addition to this recommendation it was pointed out that the character of the hospital it was proposed to use for port purpose was open to criticism, and the inspector was informed that the provision of a more suitable Port hospital was in contemplation.

Action taken by the Port Sanitary Authority since Inspection.

1. On July 3rd, 1893, the steam tug "Sarah Jane" was engaged at the rate of 18*l.* per week, and the systematic inspection of shipping in the roads was commenced. "All vessels, foreign and coastwise, were thoroughly examined, and no vessel was allowed to enter the docks without a certificate signed by the inspecting officer . . ." *i.e.* either the Medical Officer of Health or the Inspector of Nuisances.

"From July 3rd to November 4th, the number of vessels examined out in the roads was 1,158, of these 487 were from foreign and 671

coastwise, of the former 420 came from infected ports." [Annual Report of the Port Medical Officer of Health for 1893.]

At the Final Conference on August 17th, 1893, it was found that a mortuary—a wooden building with brick floor—had been provided at the cholera hospital.

A public inquiry was held at Cadoxton on February 14th, 1894, by two of the Board's inspectors with reference to a petition which had been presented to the Board by the Barry and Cadoxton Local Board, acting as Port Sanitary Authority, to issue a Provisional Order empowering that Authority to put in force the powers of the Lands Clauses Acts with respect to the compulsory purchase of certain lands (Sully Island) for the erection thereon of an isolation hospital. The application for the Provisional Order was refused.

An agreement was entered into in 1894 between the Barry and Cadoxton and the Cardiff Port Sanitary Authorities, under which the Cardiff Port Sanitary Authority undertake to receive and treat in the hospital at Flatholm any cases of cholera that may be brought to or arise in the Barry and Cadoxton Port Sanitary District. Arrangements have also been made so that any patients dying in the Flatholm hospital can be cremated a tthe Cardiff crematorium on the Flatholm. [Annual report of the Port Medical Officer of Health, June 1894.]

SECTION XVI.

Customs Ports of Swansea, Llanelly, Milford, and Cardigan.

Illustrated in Map XVI.

LIMITS OF CUSTOMS PORTS.

(52.) *Swansea.*

The limits of the Port of Swansea shall commence at Nash Point aforesaid, and continue along the coast of Glamorganshire to Wormshead, and from thence to Whitford Point, in the said County, and that*

Date of Treasury Warrant, 6th day of November 1847.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Swansea, the Urban Riparian Sanitary District of Oystermouth, and certain Riparian Parishes of the Rural Sanitary District of Gower. Shipping trade is practically confined to the Swansea Port Sanitary District, as to which see report, page 520.

(53.) *Llanelly.*

That the Port of Llanelly shall commence at Whitford Point, in Glamorganshire, including the whole of the Burry River, and continue from that River along the coast of Carmarthenshire to Sandersfoot, being the western extremity of the County of Carmarthen, and that*

Date of Treasury Warrant, 6th day of November 1847.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary Districts of Llanelly, Kidwelly, and Carmarthen, and certain Riparian Parishes of the Rural Sanitary Districts of Gower, Llanelly, Carmarthen, and Narberth.

There is shipping trade at all the Urban Riparian Districts, and at certain parishes of the Rural Riparian Districts of Llanelly and Narberth, and reports with regard to each of these districts will be found at pages 528, 537, 539, 533, and 542 respectively.

(54.) *Milford.*

That the Port of Milford shall commence at Sandersfoot aforesaid, and continue along the coast to a place called Saint Justinian's Chapel, near St. David's Head, in the County of Pembroke, including Milford Haven, and that*

Date of Treasury Warrant, 6th day of November 1847.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Milford, the Urban Riparian Sanitary District of Tenby, and certain Riparian Parishes of the Rural Sanitary Districts of Narberth, Pembroke, and Haverfordwest. The shipping trade is confined to the Milford Port Sanitary District and the Tenby Urban Riparian District, and reports as to these will be found at pages 548 and 545 respectively.

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* See footnote, page 78, *ante*.

Diagram Map showing the Sanitary Districts, Port & Riparian comprised in the Customs Ports of Swansea, Llanelly, Milford & Cardigan.

[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural Districts each Parish that is riparian is separately designated.]

I Swansea II Milford III Cardigan Port Sanitary Districts.

(55.) *Cardigan.*

That the tPort of Cardigan shall commence at Saint Justinian's Chapel aforesaid, and continue along the coast of Pembrokeshire and Cardiganshire to a place called New Quay Head, in the latter County, and that*

Date of Treasury Warrant, 6th day of November 1847.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Cardigan, and certain Riparian Parishes of the Rural Sanitary Districts of Haverfordwest, Cardigan, Newcastle-in-Emlyn, and Aberayron.

Shipping trade is practically confined to the Cardigan Port Sanitary District, a report with regard to which will be found at page 554.

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* See footnote, page 78, *ante.*

Swansea Port Sanitary District.

[Swansea Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* March 20th, 1893.

Date of order *permanently* constituting Port Sanitary District :— October 5th, 1887.

1. *Constitution of Port Sanitary Authority :—*

The Swansea Port Sanitary Authority is a Joint Board termed the "Swansea Port Sanitary Authority," consisting of 16 representative members, as follows :—

Swansea Urban Sanitary Authority, eight members.
Aberavon Urban Sanitary Authority, one member.
Neath Urban Sanitary Authority, one member.
Briton Ferry Urban Sanitary Authority, one member.
Margam Urban Sanitary Authority, one member.
Oystermouth Urban Sanitary Authority, one member.
Bridgend and Cowbridge Rural Sanitary Authority, one member.
Swansea Rural Sanitary Authority, one member.
Neath Rural Sanitary Authority, one member.

It exercises Port functions in waters abutting upon the Sanitary Districts named above, and upon a portion of the Gower Rural Sanitary District.

2. *Limits of Jurisdiction :—*

"So much of the said Port as lies to the landward side of a straight line drawn from Mumbles Point to the south-eastern boundary of the said Port, together with the waters,"* &c.

These limits are regarded to be satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Swansea Urban Sanitary District (whole).
Aberavon „ „ „ „
Neath „ „ „ „
Briton Ferry „ „ „
Margam „ „ „
Oystermouth „ „ „
Swansea Rural Sanitary District. Parishes : — Llansamlet, Higher; Swansea, Higher and Lower.
Bridgend and Cowbridge Rural Sanitary District. Parishes :— Kenfig, Sker, Pyle, Newton Nottage, Merthyrmawr, St. Bride's Major, Wick, Monknash, and Marcross.
Neath Rural Sanitary District. Parishes :—Baglan Lower, Coedfrank, Dyffryn Clydach, and Blaenhonddan.
Gower Rural Sanitary District. Parish :—Oystermouth.

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* See footnote, page 89, *ante*.

4. *Apportionment of Expenses :—*

All the riparian authorities with the exception of the Gower Rural Sanitary Authority contribute to the port expenses.

The Urban Sanitary Authorities according to their rateable value.

The Rural Sanitary Authorities, with the above-named exception, according to the rateable value of such of the contributory places within their respective Rural Sanitary Districts as abut upon the district of the said Port Sanitary Authority.

5. *General Character and Efficiency of Administration :—*

Generally good and efficient.

6. *Ports from whence Ships arrive :—*

(Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

Foreign.—*Bilbao* (Spain), *St. Nazaire* (France), Bordeaux (France), Huelva (Spain), Nantes (France), Port Nolloth (Cape of Good Hope), Tucacas (Venezuela), Engasteria (Greece), Genoa (Italy), Messida (Algiers), Carloforte (Sardinia).

Coastwise.—*London*, Bristol, Liverpool, Glasgow, Barrow, Belfast, Hull, Newcastle-on-Tyne, Whitby, Middlesbrough.

The above are the principal ports from which vessels run to and from Swansea, though the trade extends practically to all parts of the globe.

7. *Character of Trade :—*

(Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Foreign.—Imports.—Iron ore, wooden goods, general merchandise, copper ore, zinc ashes.

Exports.—Coal, tin, patent fuel, manufactured goods, spelter.

Coastwise.—Inwards.—General merchandise.

Outwards.—Coal, tin, patent fuel.

Practically no "rag" trade. No passengers, immigrants, and transmigrants.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	760	416,893	810	416,838	893	462,541
	Sailing	672	148,751	567	143,046	526	123,452
	Fishing	Nil.	—	Nil.	—	Nil.	—
Total Foreign		1,462	565,644	1,377	559,884	1,419	585,993
Coastwise.	Steamers	2,440	652,845	2,505	603,124	2,691	619,584
	Sailing	2,202	205,276	2,014	180,418	2,136	188,925
	Fishing	Nil.	—	—	—	—	—
Total Coastwise		4,642	858,121	4,519	783,542	4,827	808,509

In addition to these figures, the following arrived at Swansea from foreign ports *viâ* other British ports :—

1890.		1891.		1892.	
Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
105	86,537	114	101,593	118	113,823

There are 39 fishing boats registered at Swansea and employed in the local fishing trade.

9. *Inland Water Communication :—*

A canal from Glynheath to the mouth of River Neath, 12 miles, the property of the Great Western Railway.

A canal from Swansea to Neath, 7 miles, the property of a private owner ("The Tennant Canal").

A canal from Swansea to Ystalyfera, 14 miles, the property of the Great Western Railway ("The Swansea Canal").

These canals bring down coal from the pits. There is apparently no direct sanitary supervision. Only open barges are employed.

The River Tawe is navigable for vessels of 300 tons as far as "Vivians" Wharf (ironworks), distance about one mile.

The River Neath is navigable as far as Neath for vessels of 300 tons, a distance of three miles.

10. *Lines of Railway conveying Goods from the Port :—*

The Great Western Railway.
The London and North-Western Railway.
The Midland Railway.
A new line is almost completed. The Rhondda and Swansea Bay Railway.

11. *Medical Officer of Health :* Ebenezer Davies.

Qualifications :—M.R.C.S. and L.S.A. Salary, 50*l.* per annum, with repayment. Mr. Davies is also Medical Officer of Health to Swansea Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—Mr. Ebenezer Davies is an able and energetic officer. He devotes considerable time to his work as Port Medical Officer of Health, and is apparently to be thoroughly trusted to deal with any emergency that may arise. He is well supported by the Port Inspector of Nuisances.

In 1892 the following medical men were appointed to assist the Port Medical Officer of Health, should an emergency arise :—

Dr. Ryding for the district of Neath.
Dr. E. V. Pegge for the district of Briton Ferry.
Dr. J. H. Davies for the district of Port Talbot.
Dr. Alexander for the district of Porthcawl.

12. *Inspector of Nuisances :* David Harris.

No sanitary certificate. Salary, 91*l.* per annum, with repayment.

Mr. Harris devotes his whole time to his duties as Port Inspector of Nuisances.

Character and efficiency of work done by Inspector of Nuisances:—The Port Inspector of Nuisances has been master of a vessel, speaks several languages, and is an able and energetic officer.

There are four Assistant Port Inspectors of Nuisances as follows:—

At Swansea, Mr. Hart. Salary, 72*l.* 16*s.* He is also employed under the harbour master. At Neath, (Captain) Thomas Davis. Salary, 26*l.* Who also acts as assistant harbour master. At Aberavon, Mr. Richard Jones. Salary, 15*l.* At Porthcawl, Mr. Wessendorf. Salary, 15*l.* He is harbour master.

13. *Nuisances:—*

Upon comparing the figures in the table below with those contained in the table of arrivals at the port, it will be seen that the Port Inspector of Nuisances has apparently inspected a greater number of vessels than are reported as having entered the port. The explanation may be found, perhaps, in the fishing boats and the vessels which have come "foreign," but which have called at other British ports, before coming to Swansea.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	1,006	102	102
		Sailing	456	13	13
		Fishing	—	—	—
		Total Foreign	1,462	115	115
	Coastwise.	Steamers	3,731	390	390
		Sailing	2,106	189	189
		Fishing	9	—	—
		Total Coastwise	5,846	579	579
1891	Foreign	Steamers	994	89	89
		Sailing	440	16	16
		Fishing	—	—	—
		Total Foreign	1,434	105	105
	Coastwise.	Steamers	3,027	303	303
		Sailing	1,816	120	120
		Fishing	14	6	6
		Total Coastwise	4,857	429	429

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	1,009	83	83
		Sailing	482	19	19
		Fishing	—	—	—
	Total Foreign		1,491	102	102
	Coastwise.	Steamers	4,096	196	196
		Sailing	2,395	76	76
		Fishing	12	4	4
	Total Coastwise		6,503	276	276

14. *Isolation Hospital :—*

The Port Sanitary Authority's Hospital stands on the foreshore, to the west of the Swansea West Pier. It is well isolated, and conveniently situate for access from the docks. Patients can be brought by boat, and landed on the shore immediately in front of the hospital. The site, which is inclosed by a wood paling 8 feet in height, is 247 feet long by 169 feet wide. It is bounded on the S.E. and S.W. by the sea; on the N.W. by the Half Tide Basin of the South Dock; and on the N.E. by the Swansea Globe Dry Dock. The hospital buildings originally comprised two galvanised iron huts used for administrative purposes; two galvanised iron and three wood huts, used for wards, and giving accommodation for 14 beds; and huts for laundry, disinfecting, and mortuary purposes. In 1893, the Port Sanitary Authority erected another galvanised iron hut, 80 to 90 feet in length, for 12 beds on the limited site noted above, with the result that the site is now decidedly overcrowded. This new hut is to be reserved for the treatment of patients suffering from cholera. The hospital is also used by the Swansea Urban Sanitary Authority, and in consequence there are usually several patients under treatment in the wards. Water is laid on from the Swansea town supply. The slop water is passed into the sea, the excreta is disposed of in earth closets, the contents of which are buried daily. There is a resident matron and staff of nurses in charge of the hospital, and a male attendant to look after the earth closets, &c.

The Port Sanitary Authority has provided an ambulance boat.

15. *Disinfecting Apparatus :—*

The Port Sanitary Authority has provided a Washington Lyon's steam disinfector, which is situate in the grounds of the Port hospital, and enclosed in a brick building. It is readily accessible from the docks.

16. *Mortuary :—*

There is a mortuary at the Port hospital. A wooden shed 12′ × 10′ × 9′.

There is also a mortuary belonging to the Swansea Urban Sanitary Authority. This mortuary has been constructed by walling up a railway arch.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

This Act has not been adopted by the Port Sanitary Authority, as notification is effected under a local Act, the Swansea Corporation Act, 1889—which has practically the same clauses as the Infectious Disease (Notification) Act, 1889, and contains a list of the same diseases as those mentioned in the Infectious Disease (Notification) Act, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The boarding of vessels out in the open bay, off the Mumbles, by means of a tug provided by the Port Sanitary Authority, and carrying a Customs Officer, which had been practised in the autumn of 1892, had, at the period of inspection in 1893, been given up; and instead, the Customs Officer put the Quarantine questions to the master of the vessel at the entrance to the docks. The Coastguard occasionally board off the Mumbles, but having only an open boat, this method is not safe in rough weather. The Principal Officer of Customs stated that only one coaster in 200 or 300 was boarded. There are three docks at Swansea—the North, the South, and the East (Prince of Wales's).

There is only one dock at Briton Ferry, which belongs to the Great Western Railway Company. The Customs Boarding Station is at the Pier Head, both for the dock and the river. Mr. Davis, the Assistant Harbour Master, acts as Assistant Port Inspector of Nuisances, with the sanction of the harbour master. In the event of sickness on board a vessel he would send for Dr. Pegge, who lives in the neighbourhood, and would telegraph for Dr. Ebenezer Davies.

At Neath there are four timber-yard quays, and a quay for general goods (principally from Bristol), and the Corporation has a quay. These are all on the town side of the river (east); on the west side there is simply an embankment.

b. Arrangements as to detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Custom House Officers are always on duty (a Preventive Officer and three Boatmen in a watch). These Officers would detain all vessels supposed to be infected until Dr. Davies had been on board.

The Pilots are under the Harbour Trust, and hold certificates from that body. The Harbour Trust allows the Port Sanitary Authority to issue instructions to Pilots. The Port Sanitary Authority has had certain questions printed in various languages, which the Pilot takes out to all ships coming in. If the answers are not satisfactory, the Pilot returns to Swansea to acquaint the Customs and the Port Sanitary Authority.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

The Custom House Officer would send a special messenger to Port Medical Officer of Health.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority possesses a second-hand four-oared gig. This gig is fitted with a screen, &c. to protect patients from the weather.

e. Mooring Station :—

There was no definite mooring station fixed at the date of inspection.

The Chief Officer of Customs regarded it desirable that a mooring station should be fixed, and suggested that it should be marked by a yellow buoy.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health has in the past, and will in the future, inspect all vessels "infected" or from an "infected port."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health, has in the past, and will in future, examine all persons on board an "infected" vessel or a vessel from an "infected port."

h. Address Book :—

An address book is kept.

i. Special Isolation Provision for Cholera :—

The ship would be sent into the bay to a position off the Mumbles and the patient removed to the Port hospital for infectious diseases.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

The patient would be removed to the hospital.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

The Port Sanitary Authority possesses a boat which is fitted with an awning or screen. There is a stretcher belonging to an ambulance (St. John's Association, Furley Pattern) which could be used in the boat.

m. Arrangements made for Disinfecting of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Some clothes have been burnt (90 pieces), and some disinfected (830 pieces). This practice will be continued.

(*b.*) The Port Medical Officer of Health would disinfect the ship by sulphur fumigation, wash all woodwork with Jeye's fluid or carbolic acid solution, and swab with solution of corrosive sublimate (1 in 1,000).

(*c.*) No means for disinfecting goods other than the Washington Lyon's apparatus previously mentioned.

n. Arrangements made as to the Disposal of the Dead :—

There is a public cemetery in which the dead would be buried. Burial at sea cannot be carried out on account of shallowness of the coast and the numerous trawlers.

o. Action as to Water Supply of Vessels from Infected Ports :—

The water tanks of such vessels are emptied and cleansed, and fresh water is supplied at the cost of the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

Instructions have been given to pilots and to the masters of all ships regularly running to Swansea from "infected ports" to see that the bilges are washed out several times during the voyage with salt water. No "disinfectants" are used.

Final Conference with the Swansea Port Sanitary Authority was held on May 3rd, 1893, when formal recommendations were made with regard to the following matters :—

1. The steps to be taken beforehand to secure, in the event of any marked prevalence of cholera in Europe or its extension to British Ports, the medical inspection of all vessels entering the Port.
2. The fixing of a suitable mooring station.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Vessels bound for Swansea are questioned by the Port Inspector of Nuisances from a steam tug, which is on duty every tide by day as well as by night. Medical inspection is carried out by the Medical Officer, either from the steam tug or after the arrival of the ship at the docks.

As regards arrivals at Neath, Port Talbot, and Porthcawl, vessels are questioned from the steam tug unless they approach these harbours, as is often the case, from a direction which deviates some miles from that of arrivals in Swansea proper.

In all cases the pilots have instructions to direct the discharge of ballast water, and bilge water, and drinking water if taken in at a foreign port. On their arrival at their respective harbours, the ships are examined by the Assistant Medical Officer, who is summoned for the purpose, if they have come from an "infected port." [Letter from the Port Medical Officer of Health, September 15th, 1893.]

By resolution of the Port Sanitary Authority of Swansea of September 10th, 1890, "The Mumbles Roadstead was fixed "as the place for the mooring or anchoring of any ship for "the purposes of Article 10." This resolution was submitted for the approval of the Chief Officer of Customs of the Port, and a letter was received from his deputy, dated 22nd September, stating that the "Board of Customs" had "no objection to offer." Since then no change has been made in the arrangements, which are at present in force. [Letter from the Port Medical Officer of Health, 21st July 1894.]

By an Order of the Board, dated July 6th, 1894, the constitution of the Joint Board was altered by the substitution of 17 for 16 representative members, the additional member being elected by the Urban Sanitary Authority of Porthcawl.

LLANELLY URBAN RIPARIAN SANITARY DISTRICT.

[Llanelly Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* April 18th, 1893.

1. *Sanitary Authority.*—The Local Board of Health of Llanelly acting as the Urban Sanitary Authority.

2. *Limits of Jurisdiction.*—The Riparian area is limited in extent. The whole of the Burry River up to Llanelly Harbour light being in the Llanelly Rural Sanitary District. Strictly speaking, there are only the docks and small harbour in the Urban District.

3. *Parishes of Sanitary District which are Riparian.*—Llanelly Urban Sanitary District is a borough hamlet, and does not coincide, nor is it as large as, the parish of Llanelly.

4. *General Character and Efficiency of Administration.*—There is a general attempt to carry out a sanitary inspection of vessels, but it is of doubtful efficiency.

The Inspector of Nuisances apparently knows but little concerning shipping, and the Medical Officer of Health does not visit a ship unless summoned.

5. *Ports from whence Ships arrive.*—(Ports or places (British and foreign) with which Riparian District has more trade, or is in more frequent communication, are printed in *italics*):—

Foreign.—*Bilbao*, Blaye, Bordeaux, Boulogne, Brest, Caen, Dieppe, Fécamp, Honfleur, Honeboint, Landerneau, Lorient, La Rochelle, Monards, Quimper, Reclon, Rouen, Vannes.

Coastwise.—*London, Liverpool, Wexford, Dublin*, Ayr, Barrow, Bristol, Carnarvon, Glasgow, Middlesbrough, Southampton, Waterford, Whitehaven, Workington.

6. *Character of Trade:*—

Foreign.—*Imports.* Timber, pitwood, copper, lead and iron ores, and sulphur.

Exports.—Coal, iron slag, copper, lead, and fire-bricks.

Coastwise.—*Imports.* Pig iron, lead and copper ores, pitwood, manure, cement, slates, bricks, clay, and scrap iron, steel bars.

Exports.—Coal, tin-plates, copper, lead.

Passenger Steamers.—To Liverpool and Cumberland ports, twice or three times a week. To Bristol regularly weekly (a grocery boat).

No rags, immigrants, or transmigrants.

7. *Amount of Shipping Inwards during three years*, 1890–91–92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	122	38,790	106	35,304	83	25,305
	Sailing	49	8,509	48	7,885	61	12,767
	Fishing	—	—	—	—	—	—
	Total Foreign	171	47,299	154	43,189	144	38,072
Coastwise.	Steamers	416	69,657	393	69,012	395	66,524
	Sailing	222	22,119	204	19,606	197	18,962
	Fishing	—	—	—	—	—	—
	Total Coastwise	638	91,776	597	88,618	592	85,486

8. *Inland Water Communication.*—None.

9. *Railways conveying Goods from Riparian District.*—Great Western Railway, and the London and North-Western Railway.

The latter has running power over the line of the former.

10. *Medical Officer of Health.*—Sydney J. Roderick. Qualifications, M.B., C.M. Salary, 60*l.* per annum, with repayment.

Character and efficiency of Port work done by Medical Officer of Health.—Only examines the shipping when called by the Customs, therefore only inspects persons when vessel is suspected to be infected, or has come from an infected port.

11. *Inspector of Nuisances.*—William Thomas Rees. No special qualifications. Salary, 100*l.* per annum, with repayment.

Mr. Rees devotes his whole time to the duties of his office, and has held his appointment over 20 years.

Character and efficiency of Port work done by Inspector of Nuisances. —The Inspector of Nuisances has inspected a few ships. The number compared with the total number of vessels entering the district, is small. He keeps a book in which he enters his visits.

12. *Nuisances. Habitual efficient dealing with as regards Shipping.*—The examination of the shipping for nuisances had only been practised to a limited extent prior to the inspection. The Inspector of Nuisances has a great deal of work to do in the Urban District, and therefore can devote but a small amount of time to work at the docks.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	4	—	—
		Sailing	6	—	—
		Fishing	—	—	—
		Total Foreign	10	—	—
	Coastwise.	Steamers	2	—	—
		Sailing	7	—	—
		Fishing	—	—	—
		Total Coastwise	9	—	—
1891	Foreign	Steamers	7	—	—
		Sailing	10	—	—
		Fishing	—	—	—
		Total Foreign	17	—	—
	Coastwise.	Steamers	4	—	—
		Sailing	12	—	—
		Fishing	—	—	—
		Total Coastwise	16	—	—
1892	Foreign	Steamers	11	—	—
		Sailing	7	—	—
		Fishing	—	—	—
		Total Foreign	18	—	—
	Coastwise.	Steamers	6	—	—
		Sailing	18	—	—
		Fishing	—	—	—
		Total Coastwise	24	—	—

13. *Isolation Hospital.*—A Doecker Hut was erected in 1892 at Mackynis. The site is situate on sandy soil near the rifle range, 1½ miles from the centre of the town and about 3 miles from the mooring station. Patients would have to be landed just inside harbour, and conveyed overland (half to a mile) or at the "*top of the tide*" the steam launch could land the patients close to the hospital.

The hospital is divided into two wards (four beds each) having a nurses' bedroom between.

The hospital had, prior to the time of inspection, been taken down, and was not prepared in any way for occupation. Every fitting would have to be bought at the moment the hospital would be required for use. There is no laundry, no mortuary, no ambulance boat, no stretcher, no drainage, no nurse. Water in the Town Company's main comes to about 440 yards of the spot selected for erecting the hospital hut. Excrement would be disinfected and buried.

The Harbour Commissioners (= the Town Council + seven *ex-officio* members) have a launch, which, when the tide permitted, would be utilised in the transfer of patients.

14. *Disinfecting Apparatus.*—A Washington Lyon's *Portable* steam disinfecting oven was obtained the latter part of the year 1892.

15. *Mortuary.*—None provided.

16. *Regulations under section* 125 *Public Health Act*, 1875.—None made.

17. *Infectious Disease* (*Notification*) *Act*, 1889.—Not adopted, as the Urban Sanitary Authority possesses a private Act dated August 7th, 1888, which deals with the notification of the following diseases:—

Small-pox, cholera, typhus, typhoid, scarlet fever, relapsing, continued, and puerperal fevers, scarlatina, and diphtheria.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—The ordinary boarding station is in the harbour between Nevill's Dock and the lighthouse, or as officially put "between the Harbour light and the Customs Watch House." For cholera purposes it has been fixed at No. 7 buoy. There are three docks, the Carmarthen, which is dry at low water, the Copper Works dock, and the Llanelly or New dock. The boarding station is the same for vessels "coming foreign" and coasters. The coasters are not necessarily boarded immediately upon arrival. The Pilots have orders to detain *all* vessels at the No. 7 buoy. The procedure is the same by day and night.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots—There is a Custom House watch-house on the quay at which a Custom House Officer is always on duty at such state of the tides at which vessels can enter the docks.

There is compulsory pilotage. A few masters of vessels running regularly have pilot's certificates. The licenses are renewed annually, and are granted by the Harbour Commissioners, *i.e.*, the Town Council.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—A special messenger from the Customs would be sent to the Medical Officer of Health.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—There is a steam launch which belongs to the Harbour Commissioners. She would take the Medical Officer of Health to the ship. The Customs have only an open boat—a four-oared galley.

e. Mooring Station.—No. 7 buoy in the Burry River. This is not altogether satisfactory, but appears to be the only place available.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would inspect all vessels, whether "infected" or from "infected ports," and in the past he has done so at great personal inconvenience.

g. Examination of Persons on Vessels ("infected" or from infected port").—The Medical Officer of Health stated that he has and will examine all persons on board "infected" vessels and also all vessels from "infected ports."

h. Address Book.—Provided.

i. Special Isolation Provision for Cholera.—The hut hospital referred to above.

k, Arrangements for Isolation of Persons suspected to be suffering from Cholera.—The Medical Officer of Health stated that he would detain on board the ship any persons "suspected" to be suffering from cholera.

l. Means provided for transfer of infected Persons from Ship to Hospital.—Steam launch. No ambulance, boat, or stretcher. No land ambulance. The launch is so constructed that there might be great danger in placing the patient on deck, and it might be impossible to take patient into the *one* cabin.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods.—There is a portable Washington Lyon's disinfecting oven. It is large enough to take a mattress. No means of disinfecting goods. The ship could be fumigated with sulphur and limewashed.

n. Arrangements as to the Disposal of the Dead.—No arrangements made for the burial of the dead. The sea or surrounding coast is unsuitable for sea burial, being shallow and sandy, and there are many trawlers. Burial in the churchyard has ceased. The Church people have provided another burial place for themselves, and the Nonconformists have another. No. 7 buoy is off the parish of St. Paul's, Pembrey.

o. Action as to Water Supply of Vessels from Infected Ports.—The Sanitary Authority will cause the water tanks of vessels from infected ports to be pumped out, and will replace such water at its own expense where there has been any "infection" on board. The tanks would be cleansed with permanganate of potassium.

p. Action as to Bilges of Vessels from Infected Ports.—The Sanitary Authority would cause the bilges to be pumped out and cleansed with several washings of salt water.

Final Conference with the Llanelly Urban Riparian Sanitary Authority was held on August 22nd, 1893, when formal recommendations were made with regard to the following matter:—

1. The arrangements to be made to secure medical inspection of all vessels from foreign before their entry into the docks, and the consequent necessary increase in the inspectorial staff.
2. The provision of permanent hospital accommodation, together with a proper mortuary and suitable ambulances.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

"Arrangements have been made for the inspection of all vessels arriving at this port, also for the inspection of vessels coming from ports infected or suspected to be infected with cholera, and having sickness on board, or having had sickness on board during the voyage, or during the stay of the vessel at such port, and for bringing the same to at No. 7 buoy, so that they may be visited by the Medical Officer of Health of the district before coming into port, and should there be any sickness on board, the vessels would not be allowed to come into port. The same instructions and precautions which apply to the cases of foreign vessels coming from infected ports will be applied to vessels coming from British ports in which cases of cholera may have occurred." [Letter from the Sanitary Authority, dated 23rd September 1893.]

With reference to the isolation of infectious diseases, one of Dœcker's hospitals has been erected at a place readily accessible from the town and

harbour. [Letter from the Sanitary Authority, dated 23rd September 1893.]

"As the Local Government Board wished as much attention paid to coasting vessels as those coming from foreign ports, I was compelled to suggest some practicable means of carrying out this object. During the last epidemic of cholera, I obtained notice from the brokers through the Custom House officials of the expected arrival of vessels, and they, as a rule, were able to name by what tide the vessels would come in. This acted very well in respect of steamships, but sailing vessels were not to be depended on.

"When I expected a steamer, I used to go to No. 7 buoy as soon as the tide had risen sufficiently to allow the steam launch to float, and wait about till the vessel arrived. In some instances the vessels had been 'pulled up' at the quarantine station awaiting my arrival.

"This year, however, I had all vessels examined in dock by two inspectors, and if they saw any indication of illness among members of the crew, I was immediately informed, and proceeded at once to examine the same.

"The pilots also had instructions not to bring any vessel into the harbour, if the vessels had not clean bills of health.

"The measures taken acted very well, and the sanitary conditions of the vessels were improved greatly, as was noticed on the next arrival of the vessels in port.

"In order to visit all vessels before coming into harbour, it would be necessary to have officers to do this work alone, working night and day.

"The Fever Hospital was erected near the Slag Bank, in the Carmarthenshire Dock District." [Annual Report of the Medical Officer of Health for the year 1893.]

Llanelly Rural Riparian Sanitary District.

[Llanelly Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* April 20th, 1893.

This Riparian District is under the jurisdiction of the Llanelly Rural Sanitary Authority. The coast line of the District, which consists of two detached portions, extends (*a*) from the common boundary of the parishes of Loughor and Llanrhidian Higher on the east to the eastern boundary of the Llanelly Urban District on the coast, and (*b*) from the western boundary of the Llanelly Urban District to the common boundaries of the parish of Pembrey, and of the Kidwelly Urban District, on the west. It comprises the following Riparian parishes:—Loughor (Parish part), Loughor (Borough part), Llanelly (extra Urban), and Pembrey.

Shipping Trade:—The only shipping in this District is at Pembrey or Burry Port.

Foreign:—*Bilbao*, Blaye, Bordeaux, Boulogne, *Brest*, Caen, Dieppe, Fecamp, Honfleur, Hennebont, Isigny, Huelva, Landerneau, Lorient, La Rochelle, Port Nolloth, Quimper, Redon, Rouen, Skien, Tucacas, Vannes.

Imports:—Timber, pitwood, lead and copper ores, and sulphur.

Exports:—Coal, iron slag, copper, lead and fire-bricks.

Coastwise:—Ayr, Barrow, Bristol, Carnarvon, Duddon, Dublin, Glasgow, *Liverpool*, *London*, Middlesbrough, Southampton, Waterford, Wexford, Whitehaven, Workington.

Imports:—Pig-iron, lead and copper ores, pitwood, manure, slates, cement, bricks, clay and scrap iron.

Exports:— Coal, tin-plates, copper and lead.

No rags, passengers, immigrants, or transmigrants.

Amount of Shipping Inwards during three years, 1890–91–92:—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	5	1,616	15	4,567	15	4,482
Foreign { Sailing	18	3,294	17	2,664	22	3,637
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	23	4,910	32	7,231	37	8,119
Coastwise { Steamers	188	20,867	201	25,645	198	22,987
Coastwise { Sailing	125	12,315	99	9,456	95	10,294
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	313	33,182	300	35,101	293	33,281

Goods are conveyed from this Riparian District by the Great Western and by the Gwendraeth and Burry Port Railways.

Chief facts reported as regards Administration:—No riparian duties have hitherto been carried out by the Rural Medical Officer of Health (Evan Evans, M.B., D.P.H.) or by the Rural Inspector of Nuisances (D. Rees) in whose district Burry Port is situate.

The Rural Sanitary Authority possess a galvanised iron "Port" hospital which was erected in 1884. It is situate on sandy soil about half a mile from the docks opposite the mooring station for infected vessels. The building is lined with match-boarding and contains one ward, 20 ft. × 13 ft. × 9ft., and two small rooms for attendant and for kitchen respectively. At the time of inspection the hospital was unfurnished and no nurse or caretaker had been provided; water is not laid on to the hospital; nor has any laundry or mortuary been provided. It is proposed to bury slops and excrement after disinfection.

The Sanitary Authority do not possess a disinfecting apparatus or a mortuary. No regulations under § 125 of the Public Health Act, 1875, have been made. The Infectious Disease (Notification) Act, 1889, was adopted March 25th, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations—

Usually at the "Dock Head," although the official Boarding Station is "the entrance to the Outer Harbour of Burry Port, near the "Harbour lighthouse." The special Quarantine Boarding Station is between Nos. 6 and 7 buoys. The same as for the Llanelly Urban Sanitary District.

The Boarding Station is the same for "Foreign" coming vessels and coasters. In the absence the Custom House Officer the Coastguard act and board all vessels Foreign and Coastwise, usually within 12 hours of arrival. This procedure is not generally carried out at night, and the chief officer of Coastguard has only three men and they have their duty to do as Coastguard, and are not officially recognised as Custom House officers. The Coastguard possess a boat 24 feet long, and the Chief Officer of Coastguard has instructions never to launch her without a proper and sufficient crew. Such a crew would consist of five men. And the Chief Officer of Coastguard stated that he would not launch his boat to take the Custom House Officer out to a vessel which, acting under instructions, the Pilot had taken to No. 7 buoy, neither would he put off to a vessel lying off the Harbour. The tide runs very strongly (8–9 knots) on ordinary quiet days, and to exercise his men and to test his equipment he hires additional men to complete his crew; this being paid for by the Admiralty.

The only places of debarkation in the District are the Docks. There is only one Custom House Officer here, and he does duty at Ferryside and Kidwelly.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots:—

The Custom House Officer would detain vessel and telegraph to the Medical Officer of Health at Llanelly. During the absence the Chief Officer of Coastguard would act in the place of the Officer of Customs. This Officer does not hold a Quarantine certificate from the Customs.

There is not provision for dealing with vessels at night except through the Pilots. There is compulsory pilotage here, the pilots being licensed by the Llanelly Harbour Commissioners, the license renewed yearly. Some masters of regular trading vessels, the Liverpool boat and the s.s. "Gazelle" (which runs to Rouen and Dieppe) hold Pilots' licenses.

The Pilots are instructed by the Harbour Commissioners to take any vessel infected with disease to the No. 7. buoy.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The officials detaining vessel would telegraph to the Medical Officer of Health at Llanelly (Dr. Evan Evans.)

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships:—

No means provided by the Sanitary Authority. The Medical Officer of Health has used the steam launch of the Llanelly Harbour Commissioners by the courtesy of the Harbour Commissioners.

e. Mooring Station :—

The mooring station is defined as at No. 7 buoy in the Burry Channel The same mooring Station as that of the Llanelly Urban Sanitary District. It is apparently satisfactory.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health stated that he would visit and inspect all "infected" vessels, but would not inspect vessels from "infected" ports" unless he received orders to do so from the Sanitary Authority.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Medical Officer of Health stated that he would examine all persons on board the "infected" vessel, but not on a vessel from an "infected port" unless he received orders to do so from the Sanitary Authority.

h. Address Book :—

None provided.

i. Special Isolation Provision for Cholera :—

The hospital hut.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

No special arrangements, but the hospital hut would be used if possible.

l. Means provided for transfer of Infected persons from Ship to Hospital:—

None. The Sanitary Authority would probably borrow the launch of the Llanelly Harbour Commissioners. The Authority possesses neither an ambulance nor a stretcher.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

The Medical Officer of Health stated that he would (*a*) burn clothes, (*b*) disinfect ship by sulphur fumigation, and washing with lime, and corrosive sublimate solution. (*c*) No means of disinfecting goods.

n. Arrangements as to the Disposal of the Dead :—

None made.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Medical Officer of Health stated that when possible to obtain fresh water he would order vessels from infected ports to pump out the water tanks.

p. Action as to Bilges of Vessels from Infected Ports :—

The Medical Officer of Health stated he would have bilges pumped out and disinfected with carbolic acid or corrosive sublimate solutions.

Final Conference with the Llanelly Rural (Riparian) Sanitary Authority was held on June 19th, 1893, when formal recommendations were made with regard to the following matters :—

1. The steps to be taken to secure the boarding at No. 7 buoy and the medical inspection of vessels arriving from ports infected or suspected to be infected with cholera.
2. The provision of an efficient disinfecting apparatus.
3 The provision of suitable hospital and ambulance accommodation.
4 The necessity for arrangements being made to secure services of a suitable person to act as hospital attendant.

ACTION TAKEN BY THE RURAL RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

"Arrangements made with the Custom House officials to acquaint the Medical Officer of Health of the arrival of all vessels from ports infected or suspected to be infected with cholera, or having had sickness on board during the voyage, or during the stay of the vessels in such ports.

"And that a steam tug will be hired to convey the Medical Officer of Health to inspect such vessels at the special quarantine station.

"Also that an ambulance will be purchased at once, and arrangements made for the hire of a disinfecting apparatus, and that, when required, the authority will provide the additional hospital accommodation, &c. suggested, and will, when necessary, engage a proper nurse to attend the same." [Letter from the Sanitary Authority, dated 23rd June 1893.]

KIDWELLY URBAN RIPARIAN SANITARY DISTRICT.

[Llanelly Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* April 21st, 1893.

This Riparian District is under the jurisdiction of the Town Council of the Borough of Kidwelly. The coastline of the district extends from "Commissioners" Bridge on the east to a point about a quarter of a mile east of Penalt Farm on the west.

Shipping Trade:—

Foreign.—None.

Coastwise.—*Liverpool*, Portreath, Milford, and Pembrey.

Imports.—None.

Exports.—Coal, bricks.

There is an occasional passenger pleasure steamer running during the summer months. She runs between Carmarthen and Tenby, calling at Kidwelly.

Amount of Shipping Inwards during Three Years, 1890-91-92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	—	—	—	—	—	—
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	—	—	—	—	—	—
Coastwise { Steamers	3	177	1	99	4	350
Coastwise { Sailing	8	559	9	623	1	74
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	11	736	10	722	5	424

In addition to the vessels noted in the Table, there are some 60 to 70 small vessels trading between Kidwelly, Langham, St. Clears, Llanstephan, Ferryside, and Carmarthen, of which no record is kept by the Customs authorities. These vessels carry coals and bricks from Kidwelly to the places named above.

The railways conveying goods from this Riparian District are the Great Western and the Burry Port and Gwendraeth Valley Railway.

Chief Facts reported as regards Administration.—Neither the Urban Medical Officer of Health (David Jones, M.R.C.S., L.R.C.P.E.) nor the Urban Inspector of Nuisances had prior to inspection paid any attention to shipping. The Sanitary Authority does not possess an isolation hospital, a disinfecting apparatus, or a mortuary.

The Infectious Disease (Notification) Act, 1889, was adopted January 1st, 1893. No regulations have been made by the Sanitary Authority under section 125 of the Public Health Act, 1875.

Arrangements made to carry out the Board's Cholera Orders.

a. Customs Boarding Station or Stations.—The Customs Boarding Station is the entrance to the Dock.

Kidwelly is visited as occasion requires by a Custom House Officer from the Llanelly Custom House Staff.

The harbour at Kidwelly consists of a Dock, dry at low water; and vessels can also lie alongside a projecting buttress, which is built of stone. Any vessels lying here must "take the mud."

The "Harbour" is leased by the Corporation to a Mr. Anthony, who is locally known as the Harbour Master.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—None made.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—None. In the absence of the Custom House officer there is no one qualified to detain a vessel.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships.—None provided.

e. Mooring Station.—"A spot half a mile from the Quay, and in the "main channel leading direct to the Dock."

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would inspect all vessels whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would examine all persons on board vessels whether "infected" or from "infected ports."

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—The Medical Officer of Health stated that he would isolate persons suspected to be suffering from cholera on board the vessel.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—No hospital. No ambulance. No stretcher.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship* (*c*) *Goods.*—

(*a.*) Burn all clothes; and the Medical Officer of Health stated that he would (*b.*) disinfect a ship with sulphur fumigation, lime-washing, and washing woodwork with solution of corrosive sublimate, 1 in 1,000.

(*c.*) No means exist for disinfecting goods.

n. Arrangements as to the Disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—The Medical Officer of Health stated that he would have water tanks emptied and cleaned, and that the Sanitary Authority would supply fresh water.

p. Action as to Bilges of Vessels from Infected Ports.—The Medical Officer of Health stated that he would have the bilges pumped out, and disinfected with solution of corrosive sublimate, 1 in 1,000, or with carbolic acid solution.

Final Conference with the Kidwelly Urban Riparian Sanitary Authority was held on January 23rd, 1894, when formal recommendations were made with regard to the following matters:—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisances and of unwholesome conditions generally.
2. The special duties and obligations devolving upon the Sanitary Authority under the cholera orders and regulations of the Local Government Board.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

That a suitable site for a hospital has now been fixed upon at the Quay, and that in case of need there would be no delay in the erection of the necessary building thereon. [Letter from the Sanitary Authority, dated 5th June 1894.]

CARMARTHEN URBAN RIPARIAN SANITARY DISTRICT.

[Llanelly Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* April 22nd, 1893.

This Riparian District is under the jurisdiction of the Town Council of the Borough of Carmarthen. The riparian jurisdiction extends about two miles along the right bank of the River Towy and for about 200 yards along the left bank of the same river.

Shipping Trade:—

FOREIGN.—Sundsvall, Frederiksstadt, and Dalhousie.

Imports.—Timber.

Exports.—None.

COASTWISE.—*Bristol, Liverpool*, Cardiff, Newry, Carnarvon, Bridgewater, London, Glasgow, Newport (Mon.), Cork, Plymouth, Waterford.

Imports.—General merchandise and groceries.

Exports.—None.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890–91–92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	3	626	3	614	3	671
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	3	626	3	614	3	671
Coastwise { Steamers	108	7,194	84	5,740	90	6,060
Coastwise { Sailing	24	1,394	22	1,253	11	683
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	132	8,588	106	6,993	101	6,743

Goods are conveyed from the Riparian District by the Great Western and by the London and North-Western Railways.

Chief Facts reported as regards Administration.—Neither the Urban Medical Officer of Health (W. H. Hughes, M.R.C.S.) nor the Urban Inspector of Nuisances (John Williams) appear to have exercised any riparian functions prior to the date of inspection.

The Sanitary Authority possesses a "semi-detached Infectious Diseases Hospital," which is attached to the Police Station and situate in the centre of the town. It forms part of the old Borough Gaol, and, with some other Corporation Buildings (fire-engine house, soup kitchen, surveyor's offices), is enclosed with a wall). One room has been provided with four beds and other necessary fittings. The building has never been used for the reception of patients suffering from infectious diseases, and is unsuitable for the purpose. No ambulance.

The Sanitary Authority also possesses a hot-air "disinfecting apparatus," which, however, is unfurnished with any means for regulating the temperature. The Inspector of Nuisances is stated to test the heat by putting his hand into the apparatus. A mortuary has been provided, this is situate in the yard of the old Borough Gaol.

The Infectious Disease (Notification) Act, 1889, was adopted June 20th, 1892. No regulations have been made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—The Customs Boarding Station is "off" Ferryside, in the River Towy. There is one quay 150 yards long in the town. No docks. Timber ships bound for Carmarthen unload their timber in "Jerryman's Pool," and the timber is floated up to Carmarthen in rafts.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—Apparently none made. There is no compulsory pilotage. "Mud-pilots" and "long-shore loafers" act as pilots should a vessel need assistance.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—During 1892, the Custom House Officer—who did customs duty at Ferryside—arranged to telegraph information of detained vessels to the Clerk of the Urban Sanitary Authority, and also to the Clerk of the Rural Sanitary Authority.

The Clerk was to communicate with the Medical Officer of Health.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships.—None.

e. Mooring Station.—None fixed.

f. Inspection of Vessels ("infected" or from "infected port").—No vessels inspected prior to inspector's visit.

g. Examination of Persons on Vessels ("infected" or from "infected port").—See above.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—No special provision.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—None.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods.*—
(*a.*) Clothes to be burnt.
(*b.*) Ships to be disinfected by sulphur fumigation and lime washing.
(*c.*) No means for disinfecting goods.

n. Arrangements as to the Disposal of the Dead.—None.

o. Action as to Water Supply of Vessels from Infected Ports.—No action taken prior to the Inspector's visit.

p. Action as to Bilges of Vessels from Infected Ports.—No action taken prior to inspector's visit.

Final Conference with the Carmarthen Urban Riparian Sanitary Authority was held on June 1st, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for the regular and thorough supervision of all vessels entering the district with a view to the abatement of nuisances and unwholesome conditions.
2. The special duties and obligations devolving upon the Sanitary Authority under the Cholera Orders and regulations of the Local Government Board, especially as regards:—
   (*a.*) The arrangements to be made with the representatives of Her Majesty's Customs and with persons acting as pilots, to secure the prompt notification to the Sanitary Authority of cases of sickness on board vessels trading into the district.
   (*b.*) The necessity of at once, in conjunction with the chief officer of Her Majesty's Customs for the district, proceeding to fix a suitable mooring station for vessels infected with cholera.

(c.) The obligation of providing for the removal of cholera sick patients from ship to hospital, or other suitable place appointed for that purpose, by the Sanitary Authority.

3. The provision of suitable hospital accommodation.

4. The necessity of making arrangements beforehand for the disposal of the dead.

ACTION TAKEN BY THE URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

Mooring station agreed on. [Special Order of the Local Government Board, dated 4th September 1893.]

An excellent site secured for the erection of an isolation hospital. [Annual Report Medical Officer of Health for the year 1893.]

Narberth Rural Riparian Sanitary Authority.

[Milford and Llanelly Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* June 22nd–23rd, 1893.

This Riparian District, which is partly situate in Carmarthenshire and partly in Pembrokeshire, is under the jurisdiction of the Narberth Rural Sanitary Authority. The coastline extends on the sea coast from the common boundary of the parishes of Pendine and Langharne on the east to Monkstone on the west. It comprises the following Riparian parishes, Pendine, Marros, Amroth, and St. Issells. (The upper and more inland portion of Milford Haven, extends into this Rural District, and the following Riparian parishes Jeffreyston, Coedcanlass, Martletwy, Minwere, Newton North, Robeston Wathen, and Slebech, are included in the Milford Port Sanitary District.)

Shipping Trade:—The only shipping in the Riparian District is at Saundersfoot.

Foreign:—Occasional vessels only from the north of France and from the Baltic.

Exports:—Anthracite coal.

Imports:—None.

Coastwise:—*Swansea*, Bude, Barnstaple, Ipswich, Bristol.

Exports:—Coal.

Imports:—Groceries, bricks, and drain pipes.

Amount of Shipping Inwards during three years, 1890–91–92:—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign – Steamers	—	—	—	—	—	—
Foreign – Sailing	—	—	1	188	—	—
Foreign – Fishing	—	—	—	—	—	—
Total Foreign	—	—	1	188	—	—
Coastwise – Steamers	13	761	13	824	19	1,503
Coastwise – Sailing	183	9,806	112	6,166	198	10,118
Coastwise – Fishing	—	—	—	—	—	—
Total Coastwise	196	10,567	125	6,990	217	11,621

Goods are conveyed from this district by the Whitland, Tenby, and Pembroke Railway, which joins the main line of the Great Western Railway at Whitland. Goods are also sent by the Saundersfoot Railway and Harbour Company's line, which runs up to the Whitland, Tenby, and Pembroke Railway at Saundersfoot.

Chief Facts reported with regard to Administration:—Prior to the Inspector's visit no Riparian duties had been performed either by the Rural Medical Officer of Health (William L. Evans, M.B.), in whose district Saunderfoot is situate, or by the Rural Inspector of Nuisances (John Morgan Thomas).

The Sanitary Authority does not possess any isolation hospital or any standing means for disinfection or a mortuary. The Authority has not adopted the Infectious Disease (Notification) Act, 1889, nor has it made any regulations under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

There is apparently no "official Boarding Station." There is no resident Custom House officer or Coastguard acting for the Customs. The Custom House Officer comes from Neyland, and the Coastguard from Tenby. The Harbour, which is "private," belongs to Mr. C. R. Vickerman who owns the neighbouring collieries. The Custom House Officer visits the vessels in the harbour.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots :—

The Pilots have received notice from the Customs not to bring vessels into the harbour when there is sickness on board. The pilots are unlicensed. The Pilots, who work occasionally to Llanelly or Swansea or Tenby, have been furnished with a list of printed questions (written in different languages), to which written answers are to be filled in by the master of the vessel.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

Mr. Vickerman's manager had promised to inform the Medical Officer of Health when a vessel arrived at the harbour from a foreign port.

Apparently this is the only arrangement made under the circumstances, and probably the most efficient means that could be devised.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships :—

None. The Medical Officer of Health would hire a boat.

e. Mooring Station :—

The mooring station has been fixed on a direct line between Monkstone and the Black Rocks at Amroth, the official wording being :—

"That under Article 6 of the Cholera Regulations of 28th August 1890, issued by the Local Government Board, the authority do hereby fix upon a certain place in the Bay near Saundersfoot Harbour within their jurisdiction for the purpose of mooring under Article 10 of the said Regulations, and ship coming foreign, such place being about 1 mile from Monkstone in a line from there to Amroth Castle, and which would be distant from Saundersfoot about 1 mile at low water."

This mooring station is apparently satisfactory.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Medical Officer of Health stated that he would inspect all vessels "infected" and from "infected ports," if he knew which ports were "infected."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Medical Officer of Health stated that he would examine all persons on board vessels "infected," and subject to the reservation mentioned above, would deal in the same way with persons on board vessels from "infected ports."

h. Address Book :—

None kept.

i. Special Isolation Provision for Cholera :—

None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

None. The Medical Officer of Health stated that he would detain on board ship persons suspected to be suffering from cholera.

l. Means provided for transfer of Infected Persons from Ship to Hospital:—

No ambulance, no stretcher.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

The Medical Officer of Health stated that he would—

(*a.*) Burn infected clothes.

(*b.*) Disinfect ship with sulphur fumigation and washing with carbolic acid.

(*c.*) No means of disinfecting goods.

n. Arrangements as to the Disposal of the Dead:—

None made.

o. Action as to Water Supply of Vessels from Infected Ports:—

The Medical Officer of Health stated that he would have the water tanks of vessels from infected ports pumped out and cleaned, and would supply fresh water at the expense of the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports:—

The Medical Officer of Health stated that he would have the bilges of vessels from infected ports pumped out and disinfected with solution of carbolic acid 1 in 20.

Final Conference with the Narberth Rural Riparian Sanitary Authority was held on September 5th, 1894, when formal recommendations were made with regard to the following matters:—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisances and of unwholesome conditions generally.
2. The special duties devolving upon the Sanitary Authority under the Cholera Orders, especially as regards:—
   (*a.*) The necessity of carrying out the medical inspection of the crews and passengers on board vessels reported as infected with cholera, and the desirability of extending this inspection to all vessels from ports either known to be, or suspected to be, infected with cholera.
   (*b.*) The obligation of providing for the removal of cholera sick patients from ship to hospital or other suitable place appointed for that purpose by the Sanitary Authority.
3. The provision of a suitable hospital accommodation, including a laundry, mortuary, disinfecting apparatus, and an ambulance.

ACTION TAKEN BY RURAL RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

Infectious Disease (Notification) Act, 1889, adopted by the Narberth Rural Sanitary Authority on 26th November 1894.

Mr. J. Phillips appointed for two months to inspect all vessels arriving at Saundersfoot in view of the possible introduction of cholera or other infectious disease. [Letter from the Sanitary Authority, dated 9th October 1894.]

TENBY URBAN RIPARIAN SANITARY DISTRICT.

[Milford Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* June 20th, 1893.

This Riparian District is under the supervision of the Town Council of the Borough of Tenby. The coastline extends from Waterwinch on the north to the Ritic Stream on the south-west.

Shipping Trade:—

Foreign.—Christiania (one or two vessels a year).

Imports.—Ice.

Exports.—None.

Coastwise.—*Pembroke*, Wexford, Bideford, Sydney, Gloucester, Newport, Bridgwater, Bangor, *Bristol.*

Imports.—Coal, general merchandise, bricks, slates.

Exports.—None.

The Bristol "Grocery Boat" calls regularly, bringing groceries, &c. from Bristol, and cattle, sheep, and pigs from Wexford.

Amount of Shipping Inwards during Three Years, 1890-91-92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	1	129	1	149	—	—
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	1	129	1	149	—	—
Coastwise { Steamers	45	11,151	47	11,943	44	16,400
Coastwise { Sailing	24	1,107	33	1,434	31	1,383
Coastwise { Fishing	2,500	62,500	2,600	64,000	2,700	65,500
Total Coastwise	2,569	64,758	2,680	77,377	2,775	83,283

The fishing boats belong to Milford, Brixham, and Dartmouth principally, and are engaged in fishing in the Bristol and English Channels.

Goods are conveyed from the riparian district by the Whitland, Pembroke, and Tenby Railway, which joins the Great Western line at Whitland.

Chief Facts reported with regard to Administration.—The Urban Medical Officer of Health (John Griffith Lock, L.R.C.P., M.R.C.S.) has carried out his riparian duties in a satisfactory manner. He is conversant with the provisions of the Cholera Order, and is prepared to carry them out. The Urban Inspector of Nuisances (Henry Teesdale Morley) had not, prior to inspection, carried out any riparian duties.

The Urban Sanitary Authority rented in 1892 an isolated cottage situate nearly a mile from the town, which it proposed to use as a hospital. This building, which was formerly a farmhouse, contains a kitchen, sitting room, two badly-lighted and badly-ventilated bedrooms, and some outhouses. At the time of inspection no bedding, bedsteads, cooking utensils, or fittings of any kind had been provided. Water could only be obtained from a well some 150 to 200 yards distant. It further had no watercloset or means of drainage.

The Authority does not possess an ambulance, nor has it any disinfecting apparatus. There is a small mortuary situate near the harbour.

The Infectious Disease (Notification) Act, 1889, was adopted December 9th, 1889. No regulations have been made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—In Caldy Roads. The Boarding Station is the same for "foreign" and "coasters." Principal place of debarkation is Quay Pier. Coasters are generally only boarded as convenient—not necessarily immediately upon arrival. The Coastguard act for the Customs for Quarantine purposes. The Chief Officer of Customs at Neyland visits Tenby once a fortnight—generally on a Saturday—but does not necessarily go to the Coastguard Station. The Coastguard Staff consists of a Divisional Officer, a Chief Officer, a Chief Boatman, and four men. No boarding is done at night, the staff being small and the boating dangerous.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—The Pilots are furnished by the Urban Sanitary Authority, through the medium of the Coastguard, with a set of printed questions which are a copy of those in use by the Swansea Port Sanitary Authority. The master is directed to fill in the form and return it to the Pilot. The Pilots are directed by a notice issued by the Customs at Llanelly, not to go on board a vessel having sickness on board, except the safety of the vessel demands it, and that once on board a vessel with sickness, to remain there until released by the Medical Officer of Health. The Pilots communicate with the Coastguard and the Chief Boatman, who holds a Quarantine certificate, detains the vessel.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—The Chief Boatman of the Coastguard detains a vessel and on his return to shore, sends a special messenger to the Medical Officer of Health.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—The Medical Officer of Health having been informed that a vessel is detained, would hire a boat and proceed to the ship. There is no launch or boat belonging to the Urban Sanitary Authority. Boating here is dangerous at times.

e. Mooring Station.—None fixed.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would inspect all vessels whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected ports").—The Medical Officer of Health stated that he would examine all persons on board vessels whether "infected" or from "infected ports."

h. Address Book.—None provided

i. Special Isolation Provision for Cholera.—Only the aforesaid "hospital" for infectious disease.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made.

l. Means provided for transfer of infected Persons from Ship to Hospital.—No ambulance boat. No ambulance. No stretcher.

m. Arrangements made for disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c.*) *Goods.*—The Medical Officer of Health stated that he would—

(*a.*) Burn all infected clothes.

(*b.*) Disinfect ship with sulphur fumigation and washing with solution of carbolic acid or with corrosive sublimate solution.

(*c.*) No means of disinfecting goods.

n. Arrangements as to the disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Porte.—The Medical Officer of Health stated that he would have water tanks emptied

and cleaned and fresh water would be supplied at the expense of the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports.—The Medical Officer of Health stated that he would have the bilges of vessels from infected ports pumped out and disinfected with corrosive sublimate solution or carbolic acid.

Final Conference with the Tenby Urban Riparian Sanitary Authority was held on August 22nd, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for the regular and thorough inspection of all vessels entering the district, so as to ensure the abatement of nuisances and of unwholesome conditions generally.
2. The special duties and obligations devolving upon the Sanitary Authority under the cholera orders especially:
   (*a.*) With regard to the necessity of at once, in conjunction with the chief officer of Her Majesty's Customs for the district, proceeding to fix a suitable mooring station for vessels infected with cholera.
   (*b.*) The obligation of providing for the removal of cholera sick patients from ship to hospital, or other suitable place appointed for that purpose by the Sanitary Authority.
3. The provision of suitable hospital accommodation and of a proper disinfecting apparatus.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

1. *General Duties as to Inspection of Vessels.*

This is done as regards all vessels arriving from foreign parts, but not as regards coasters or trawlers, but if required these shall also be inspected.

2. *Special Duties under the Cholera Orders.*

(*a.*) The Sanitary Committee request me to apply to your Board for leave to fix upon Caldy Roadstead as a suitable mooring station for vessels infected with cholera, as such Roadstead is outside the jurisdiction of the Urban Sanitary Authority, but it is the only suitable mooring station where vessels can remain in safety.

(*b.*) The Sanitary Authority will obtain a tent as a temporary hospital for the reception of any cholera cases or any cases of infectious disease. [Letter from the Sanitary Authority, dated 30th August 1893.]

1. Local trading vessels and trawlers will now be examined periodically with the view of securing the abatement of nuisances, &c.

3. The district officer of Customs has been here, and in conjunction with the Medical Officer of Health, the Inspector of Nuisances, and myself, gone into the question of the mooring station for vessels infected with cholera, and a position in Caldy Roads fixed upon. [Letter from the Clerk of the Sanitary Authority, dated 4th November 1893.]

Dr. Reece met the Sanitary Authority in Conference on September 4th, 1894, and a mooring station in Caldy Roads was agreed upon.

This new mooring station was sanctioned by the Board in a Special Order dated November 9th, 1894.

Milford Port Sanitary District.

[Milford Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* March 22nd, 1893.

Date of Order *permanently* constituting Port Sanitary District: April 24th, 1878.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The Milford Port Sanitary Authority," and consists of 13 representative members of the Riparian Authorities as follows:—

Urban Sanitary Authority, for the Borough of Pembroke, three members.

Urban Sanitary Authority for the Borough of Haverfordwest, two members.

Urban Sanitary Authority for the Improvement Act District of Milford, one member.

Rural Sanitary Authority of Haverfordwest, three members.

Rural Sanitary Authority of Narberth, one member.

Rural Sanitary Authority of Pembroke, three members.

It exercises port functions in waters abutting upon the Urban Sanitary Districts of Pembroke, Haverfordwest, and Milford, and upon the Rural Sanitary Districts of Haverfordwest, Narberth and Pembroke.

2. *Limits of Jurisdiction:—*

"So much of the Port of Milford as lies within an imaginary straight line drawn from St. Ann's Head to Blockhouse Point on the opposite coast; together with the waters," * &c.

The limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:*

Pembroke Urban Sanitary District:—The whole.

Milford Urban Sanitary District:—The whole.

Haverfordwest Urban Sanitary District:—The whole.

Haverfordwest Rural Sanitary District. Parishes:—

Dale, St. Ishmaels, Hasguard, Walwyns Castle, West Roberston, Herbrandston, Hubberston, Steynton, Llangwm, Freystrop, Haroldston St. Issells, Haverfordwest St. Martin, Uzmaston, and Boulston.

Pembroke Rural Sanitary District. Parishes:—

Angle, Rhoscrowther, Pwllcrochan, Monkton, Cosheston, Upton, Carew, Lawrenny, Burton, Llanstadwell, and Rosemarket.

Narberth Rural Sanitary District. Parishes:—

Jeffreyston, Coedcanlass, Martletwy, Minwere, Newton, Robeston Wathen, and Slebech.

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* See footnote, page 89, *ante*.

4. *Apportionment of Expenses :—*

The constituent authorities contribute in the proportions following viz.—By the Urban Sanitary Authorities in proportion to the rateable value of their respective Urban Sanitary Districts and by the said Rural Sanitary Authorities in proportion to the rateable value of such of the Contributory Places within their respective Rural Sanitary Districts as abut on the portion of the said Port which is within the jurisdiction of the Joint Board, such value to be ascertained according to the Valuation List in force for the time being.

5. *General Character and Efficiency of Administration :—*

The administration of the Port Sanitary Authority has not been altogether satisfactory. This is partly due to there being only one Port Inspector of Nuisances and to the distances to be traversed.

6. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

FOREIGN.—*Quebec, Baltic Ports.* The vessels employed in the fishing trade sometimes put into French Ports to sell fish. There are a few ships now running to Germany—*Bremen.*

COASTWISE.—*Waterford, Cork,* Dublin, London, Glasgow, Liverpool, Chester, *Bristol,* and *Welsh Ports.*

[Vessels bound to and from other ports often put into Milford Haven under stress of weather ; these number 2,000 or 3,000 a year.]

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—*Imports.* Timber, ice. *Exports.* Coal.

COASTWISE.—*Inwards.* Coal, cement, manure, fish, cattle, slates. *Outwards.* Coal and timber.

Rags —None.

Passenger Steamers to Liverpool and Swansea (weekly) Waterford (daily), Cork (three times a week), Wexford (weekly).

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	7	1,741	8	2,616	20	5,922
Foreign { Sailing	36	10,788	22	8,921	21	6,497
Foreign { Fishing	31	1,581	22	1,077	6	341
Total Foreign	74	14,110	52	12,614	47	12,760
Coastwise { Steamers	771	288,954	788	286,517	758	302,983
Coastwise { Sailing	673	31,893	622	26,636	714	32,438
Coastwise { Fishing	2,386	226,775	2,872	260,490	2,658	255,817
Total Coastwise	3,830	547,622	4,282	573,643	4,130	591,238

9. *Inland Water Communication :—*

There are no canals in the District, nor is there a navigable river beyond the tidal portion.

10. *Lines of Railway conveying Goods from Port :—*

The Great Western Railway and the Pembroke and Tenby Railway.

11. *Medical Officer of Health :* George Griffith.

Qualifications :—M.R.C.P., M.R.C.S. Salary, 25*l.* per annum with repayment. Dr. Griffith also acts as Medical Officer of Health for the Milford Urban Sanitary Authority and for the Milford Rural Sanitary Authority.

Character and efficiency of work done by Medical Officer of Health :—He appears ready and anxious to carry out the duties of his office, but only acts when there is actually illness on board a ship.

William Griffiths, M.B., son of the above, was in 1892 appointed by the Port Sanitary Authority as assistant to his father. This appointment had lapsed at the date of inspection. There was no salary.

12. *Inspector of Nuisances :* William Summers.

No sanitary certificate. Salary, 15*l.* per annum with repayment. Mr. Summers also acts as Inspector of Nuisances and as surveyor for the Milford Urban Sanitary Authority.

Character and efficiency of work done by Inspector of Nuisances :—

Mr. Summers, who lives at Old Milford, does very little sanitary work as Port Inspector of Nuisances.

13. *Nuisances :—*

The list furnished by the Port Inspector of Nuisances and given in the following Table shows few vessels examined, and none reported to have a nuisance on board.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1891	Foreign	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—
1892	Foreign	Steamers	9	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	9	—	—
	Coastwise.	Steamers (Trawlers)	22	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	22	—	—

14. *Isolation Hospital :—*

There is an isolation hospital for infectious diseases, at Old Milford, which is the property of the Port Sanitary Authority. It is unsuited for the reception of cholera patients. The Port Sanitary Authority had, at the time of inspection, purchased an old brig, which the Authority proposed to fit up as an infectious disease hospital. This vessel will be kept in the docks when not in use, and will be towed out and moored at a spot situate off Angle Bay, on the remote side of the Haven, selected with the approval of the Queen's harbour master, when she is required for use.

15. *Disinfecting Apparatus :—*

None provided.

16. *Mortuary :—*

None provided.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Adopted January 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

For Milford the Boarding Station is :—"That part of the Haven directly in front of the town of Milford."

Places of debarkation: Milford Docks, Neyland, Pembroke Quay (Government Quay), Haverfordwest, Cresswell, Llanvenny, Blackpool, Hook, and Newton Noyes Pier. Procedure the same by day and night.

There is no boarding station for coasters, which are only boarded "when occasion requires."

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

There is not a Custom House Officer in attendance at each place of debarkation. At certain places vessels are not boarded on arrival, though they may be later. "Foreign" coming vessels are boarded the same by day and night. The Customs use a four-oared gig. At times it is almost impossible for an open boat to keep afloat in the Haven.

The Pilots are under the Milford Sub-Commission of the Trinity Board.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

None made.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

None provided. At times it would be impossible to visit a vessel in an open boat.

e. Mooring Station :—

Off Popton Point, near the mouth of Angle Bay. This station has been approved by the Queen's Harbour Master.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health stated that he would inspect all vessels "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health stated that he would inspect all persons on board an "infected" vessel, or vessel from an "infected port."

h. Address Book :—

The Port Medical Officer of Health has kept addresses, but hitherto no regular book.

i. Special Isolation Provision for Cholera :—

None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

The Port Medical Officer of Health stated that he would isolate suspected persons on board the infected vessel.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

No special means provided for transfer of infected persons.
The Port Medical Officer of Health stated that he would use the ship's boat.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) The Port Medical Officer of Health stated that he would burn infected clothes. He has already burnt the clothes of persons suffering from variola.

(*b.*) The Port Medical Officer of Health stated that he would disinfect the ship by sulphur fumigation, and by washing down with corrosive sublimate or carbolic acid solution.

(*c.*) No means of disinfecting goods.

n. Arrangements made as to the Disposal of the Dead :—

None made at date of inspection.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that he would have the water tanks of vessels from infected ports emptied and cleansed, and that the Port Sanitary Authority would pay for the supply of fresh water.

p. Action as to Bilges of Vessels from Infected Ports :—

The Port Medical Officer of Health would have bilges pumped out, and would disinfect with carbolic acid or corrosive sublimate solution.

Final Conference with the Milford Port Sanitary Authority was held on June 2nd, 1893, when formal recommendations were made with regard to the following matters :—

(1.) The appointment of a Port Inspector of Nuisances, to devote his whole time to the duties of his office.

(2.) The provision of proper and sufficient hospital accommodation.

(3.) The steps to be taken beforehand to secure, in the event of any marked extension of cholera in Europe, or its introduction to British Ports, the medical inspection of all vessels entering the Port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

The place for mooring the Hospital Ship altered to a spot between Old Milford and Newton Noyes, on the Old Milford side of the Haven, at a place approved by the Queen's Harbour Master. [Letter from the Port Medical Officer of Health, dated July 25th, 1893.]

The Floating Hospital fitted up and ready for use. [Letter from the clerk, dated 18th August, 1893.]

The Hospital Ship has the following accommodation :—Centre ward, 18 feet by 15 feet, 6 beds : fore ward, 18 feet by 12 feet 6 inches, 4 beds ; abaft ward, 10 feet by 8 feet 6 inches, 1 bed. Two compartments, each 7 feet 6 inches by 8 feet 6 inches, for nurses. Fore compartment, 18 feet by 11 feet, fitted with boiler for hot bath, and mortuary. Abaft cabin fitted for accommodation of caretaker and nurse. [Annual Report of Medical Officer of Health for 1894.]

Cardigan Port Sanitary District.

[Cardigan Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* May 8th, 1893.
Date of Order *permanently* constituting Port Sanitary District: September 28th, 1887.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "The Mayor, Aldermen, and "Burgesses of the Borough of Cardigan acting in Council."

It exercises Port functions as regards waters abutting upon the Urban Sanitary District of Cardigan, and upon a portion of the Rural Sanitary District of Cardigan.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Cardigan aforesaid as lies on the landward side of a straight line drawn from Pencemmaes to the nearest point of Cardigan Island, and on the landward side of a line drawn from such point along the whole of the outer or northern shore of that Island, and to the westward of a straight line drawn from the eastern extremity of such outer or northern shore to the nearest point of the Parish of Verwick; together with the waters,"* &c.

The upper limit is just above Cardigan Bridge, on the River Teify.

These limits are apparently satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Cardigan Urban Sanitary District.
" Rural Sanitary District. Parishes:—Saint Dogmells (part of), Verwick.

4. *Apportionment of Expenses:—*

"The expenses incurred by the Port Sanitary Authority are wholly borne by the Urban Sanitary Authority of the Borough of Cardigan."

5. *General Character and Efficiency of Administration:—*

As far as the inspection of shipping is concerned, the Officers of the Authority fulfil the duties devolving upon them. The Port Sanitary Authority, however, is utterly without the means of dealing with cholera or other infectious disease.

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* See footnote, page 89, *ante*.

6. *Ports from whence Ships arrive.* (Ports or places (Coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*) :—

FOREIGN.—Fredrikstadt (Baltic), Lulea (Baltic), Sundsvall (Sweden).

COASTWISE.—*Bristol* (one steamer weekly), *Cardiff*, *Swansea*, Llanelly, Porthcawl, Milford, Liverpool, and Welsh Ports generally, and the Irish Ports, principally *Waterford*, *Dublin*, and *Cork*.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—*Imports:* Timber.
Exports: None.

COASTWISE.—*Inwards:* Coal and culm (coal ashes and clay mixed), manure, and general merchandise.
Outwards: Bricks, timber, manufactured iron-work.

No rags, passengers, transmigrants, or immigrants.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	—	—	—	—	—	—
	Sailing	2	408	—	—	2	206
	Fishing	—	—	—	—	—	—
Total Foreign		2	408	—	—	2	206
Coastwise.	Steamers	56	4,068	68	5,080	61	4,553
	Sailing	209	6,609	194	5,207	131	4,449
	Fishing	—	—	—	—	—	—
Total Coastwise		265	10,677	262	10,287	192	9,002

9. *Inland Water Communication :—*

None.

10. *Lines of Railway conveying Goods from Port :—*

Great Western Railway.

11. *Medical Officer of Health*: William Davies.

Qualifications :—M.R.C.S. Salary, 4*l.* per annum; with repayment. Mr. Davies also holds the appointments of Medical Officer of Health for the Cardigan Urban and for the Cardigan Rural Sanitary Districts.

Character and efficiency of work done by Medical Officer of Health :—

He appears to carry out his duties as a Port Medical Officer of Health in an efficient manner.

12. *Inspector of Nuisances:* John Sharp.

No sanitary certificate. Salary, 15*l.* per annum; with repayment. Mr. Sharp is also Inspector of Nuisances for the Cardigan Urban Sanitary District, and Borough Surveyor.

Character and efficiency of work done by Inspector of Nuisances :—

He examines all ships, trading to Cardigan, for nuisances. Before being made Port Inspector of Nuisances, Mr. Sharp acted as a reporter to the newspapers. He appears to be an intelligent officer.

13. *Nuisances :—*

Number of vessels inspected, foreign and coastwise, respectively during 1890–91–92, with number reported defective and number of orders issued in each year :—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	2	—	—
		Fishing	—	—	—
		Total Foreign	2	—	—
	Coastwise.	Steamers	265	—	—
		Sailing			
		Fishing			
		Total Coastwise	265	—	—
1891	Foreign	Steamers	—	—	—
		Sailing	2	—	—
		Fishing	—	—	—
		Total Foreign	2*	—	—
	Coastwise.	Steamers	245	—	—
		Sailing			
		Fishing			
		Total Coastwise	245	—	—
1892	Foreign	Steamers	—	—	—
		Sailing	2	—	—
		Fishing	—	—	—
		Total Foreign	2	—	—
	Coastwise.	Steamers	173	—	—
		Sailing			
		Fishing			
		Total Coastwise	173	—	—

* It will be seen that the Port Inspector of Nuisances in the list above states that two "foreign" vessels were inspected in 1891. It will be seen from the Customs report that there were no vessels from "foreign" in the year 1891. The Port Inspector of Nuisances explains this by saying he merely copied the report of his predecessor.

14. *Isolation Hospital :—*

None provided.

15. *Disinfecting Apparatus :—*

None provided.

16. *Mortuary :—*

None provided.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

"On the bar at the mouth of the River Teify."

The Customs possess no boat. When visiting an incoming vessel, the Collector of Customs, who is the only officer here, has to hire a boat. The legal quays are Griffith and James's Quay, known as Lloyd's Wharf, and Quay Mawr or "Big" Quay on the north side. These are known locally by different names. At certain places the vessels lie on the mud, carts being driven alongside at low-water to remove cargo. Theoretically, coasters are boarded at the bar, and the procedure is the same by day and night. Practically—there being only one Officer—he boards such vessels when he can spare time from his office work, and, owing to the "Bar" and the difficulty of entering, vessels never come up at night.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

There are no licensed Pilots. There are two Pilots who live near the Coastguard Station, who would take any vessel with sickness on board to the Mooring Station off Penrhyn Castle.

c. Arrangements for Communications between Officials detaining Vessels and Medical Officer of Health :—

The Collector of Customs stated that he would personally inform the Port Medical Officer of Health.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

None provided.

When the Port Medical Officer of Health goes off to a vessel he hires a boat at his own expense.

e. Mooring Station :—

In the bay, at the mouth of the river, off Penrhyn Castle. Satisfactory, as far as can be arranged, although it would be unsafe in stormy weather from the north or north-west.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health stated that he has hitherto and will in the future inspect all vessels whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health stated that he has hitherto and will in the future examine all persons on board vessels whether "infected" or from "infected ports."

h. Address Book :—

The Port Medical Officer of Health keeps an address book.

i. Special Isolation Provision for Cholera :—

None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

The Port Medical Officer of Health stated that he would keep suspected persons on board the vessel.

l. Means provided for transfer of infected Persons from Ship to Hospital :—

None provided.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods* :—

The Port Medical Officer of Health stated that he would—

(*a.*) Burn infected clothes.
(*b.*) Disinfect ships by sulphur fumigation.
(*c.*) There are no means of disinfecting goods.

n. Arrangements made for the Disposal of the Dead :—

No arrangements made at the date of inspection.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that he had had the drinking water of vessels from "infected ports" pumped out, and that fresh water was supplied by the Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that he had had the bilge water of vessels from "infected ports" pumped out and disinfected with Condy's fluid.

Final Conference with the Cardigan Port Sanitary Authority was held on June 23rd, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of a suitable hospital and ambulance.
2. The adoption of the Infectious Disease (Notification) Act, 1889.
3. The steps to be taken beforehand to secure, in the event of British ports being invaded by cholera, the medical inspection of all vessels entering the Port whether coastwise or from foreign.

Action taken by the Port Sanitary Authority since Inspection.

During 1893 all vessels entering the port coastwise were periodically inspected. [Report of Port Medical Officer of Health for 1893.]

The Port Sanitary Authority apparently made several efforts to acquire a site for an infectious disease hospital, but without success. [Letters from the Port Sanitary Authority, dated August 26th, September 2nd, September 16th, and November 18th, 1893, and February 13th, 1894.]

SECTION XVII.

Customs Port of Aberystwith.

Illustrated in Map XVII.

LIMITS OF CUSTOMS PORT.

(56.) *Aberystwith.*

The limits of the said Port shall commence at New Quay Head, in the County of Cardigan, and continue in a northerly direction along the coasts of the Counties of Cardigan and Merioneth to the north bank of Mochras Haven, and including the said Haven, being the southern limits of the Port of Carnarvon, and shall*

Date of Treasury Warrant, 5th day of July 1865.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary Districts of New Quay, Aberystwith, Towyn, and Barmouth, and certain Riparian Parishes of the Rural Sanitary Districts of Aberayron, Aberystwith, Machynlleth, and Dolgelly. The shipping trade is practically confined to the Urban Riparian Districts of Aberystwith and Towyn, reports as to which will be found at pages 561 and 565 respectively.

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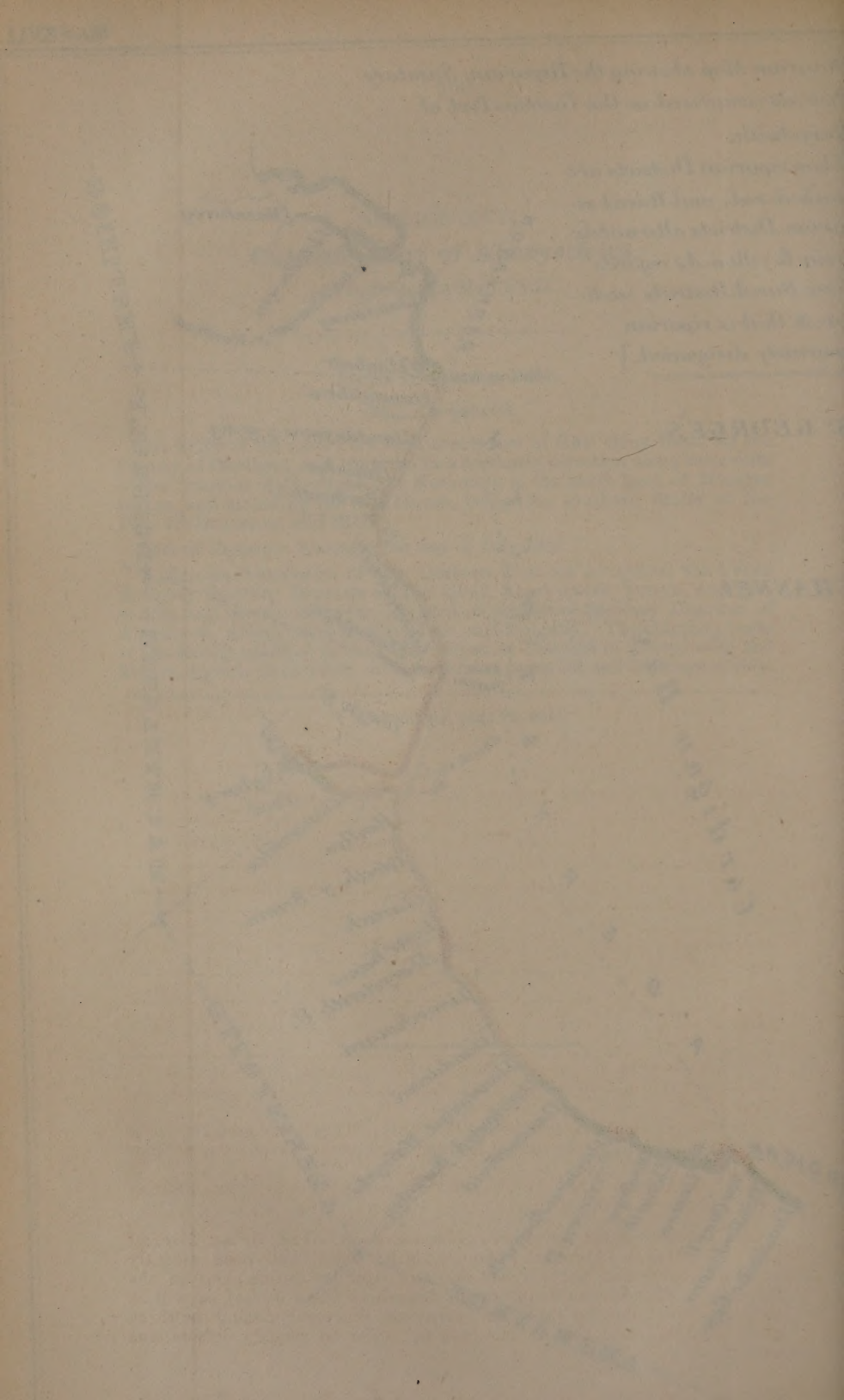
* See footnote, page 78, *ante*.

Diagram Map showing the Riparian Sanitary Districts comprised in the Customs Port of Aberystwith.

[Urban riparian Districts are marked red, and Rural riparian Districts alternately green & yellow. As regards these Rural Districts each Parish that is riparian separately designated.]



ABERYSTWITH URBAN RIPARIAN SANITARY DISTRICT.

[Aberystwith Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* July 17th–19th, 1893.

This Riparian District is under the jurisdiction of the Town Council of the Borough of Aberystwith. The coastline extends from Alltwen Rock on the south to Craiglais Point on the north.

Shipping Trade:—

FOREIGN.—Baltic Ports and Gulf of Mexico. There is little foreign trade.

Exports.—Slate and lead ore.

Imports.—Timber.

COASTWISE.—*Liverpool*, Bristol, Swansea, Cardiff, Briton Ferry, Llanelly, and coal ports generally.

Exports.—Slate, timber, lead ore.

Imports.—Coal, groceries and general merchandise. A few passengers on steamers from Liverpool and Bristol. No rags, immigrants or transmigrants.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890–91–92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	5	839	1	259	2	387
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	5	839	1	259	2	387
Coastwise { Steamers	55	3,376	56	3,439	60	3,654
Coastwise { Sailing	43	1,694	64	3,363	74	3,465
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	98	5,070	120	6,802	134	7,119

The Fishing Boats belong to the Port only. They leave and return to the Port and fish in the Bay (Cardigan Bay), being absent one to four days.

The Manchester and Milford Railway and the Cambrian Railway convey goods from this district.

Chief facts reported as regards Administration:—The Urban Medical Officer of Health (Abraham Thomas, M.B., B.S.), had been recently appointed, and had not carried out any riparian duties prior to the inspection. The Urban Inspector of Nuisances (Rees Jones), as will be seen from the following table, had inspected six vessels during the three years 1890–92; and that in one case an order to remedy defects was issued.

INSPECTION OF SHIPPING IN 1890-91-92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	1	1	1
		Fishing	—	—	—
		Total Foreign	1	1	1
	Coastwise.	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—
1891	Foreign	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	3	—	—
		Fishing	—	—	—
		Total Coastwise	3	—	—
1892	Foreign	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	2	—	—
		Fishing	—	—	—
		Total Coastwise	2	—	—

The Urban Sanitary Authority possess a block of buildings which it proposes to utilise for isolation purposes. The buildings were erected in 1886, at the time that the works in connexion with the breakwater were in progress. The buildings referred to at that time comprised (*a*) an office, (*b*) a smithy, (*c*) a carpenters' shop, and (*d*) a shed; of these the first named had prior to the inspection been converted into a cottage, and the others disused and shut up. The buildings are situate on a promontory at the base of the pier breakwater, which has on one side the River Ystwith, and on the other side the sea at a distance from harbour of some 200 yards. There is supposed to be accommodation for six patients. The walls of the cottage are of stone, and the roof of slate tiles. The floor of the "ward" is boarded. At the time of inspection the cottage was occupied by a caretaker and his sister. The whole of the premises were full of the ordinary property of cottagers, and in the corner of the "ward" was a heap of coals, and fowls also found a resting place there. Two bedsteads, two wardrobes, and many articles of furniture, all the property of the caretakers, were also kept in this room. These caretakers

hold the place on condition of their turning out at a "moment's notice." No hospital fittings of any sort are provided, and would have to be purchased. No means have been provided for the conveyance of the sick to hospital. There is plenty of ground available to extend accommodation. Water for drinking purposes is carried from a well on the remote side of the river, distant about 200 yards. Water for house purposes is fetched from the river. There is no drainage. Excrement would be disinfected and buried. There is a dilapidated privy outside the cottage against the wall. No arrangements have been made for the accommodation of the caretakers elsewhere should they be required to vacate the building suddenly. Considerable time would be taken up in removing the caretakers' property, and in cleaning the building, and in fitting it up for the reception of the sick.

The authority has not provided either a disinfecting apparatus, or a mortuary. The Infectious Disease (Notification) Act, 1889, was adopted January 1st, 1890. No regulations have been made under Section 125, of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—Is at the junction of the mouths of the Rivers Reidol and Ystwith.

There is a legal quay called St. David's Wharf, and another which has not been legalised, but is much used, called "The Quay." Theoretically, the boarding station is the same for coasting and foreign-coming vessels. Practically the latter are hailed from the wooden pier, and the others boarded at the place where they may be lying. The harbour is tidal, and a Custom House Officer is on duty when the tide serves.

There is no coastguard station here.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—The Chief Officer of Customs would detain a vessel infected with cholera. The mooring place is not good, but is the only one available. The vessel would be detained the 12 hours pending inspection by the Medical Officer of Health.

The Pilots, who are not licensed, but are appointed by the Corporation, which is the Harbour Authority, have received the ordinary Quarantine Instructions to Pilots issued by the Customs. They meet the vessel at least three miles out, and would in accordance with the Customs Orders of June 28th, 1893, hoist the Q signal if the ship is infected.

The Customs have no boat, but hire as required.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—The Chief Officer of Customs would send a special messenger to the Medical Officer of Health.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—The Medical Officer of Health would be conveyed to the ship by the boat belonging to the Harbour Authority (*i.e.*, the Corporation).

e. Mooring Station.—The mooring station is the same place as the boarding station, *vide* "*b*" above. This is not a very satisfactory mooring station, being situated at the same spot as the "boarding station," and right in the fair way to the entrance to the harbour. The coast is a dangerous one, and it is not advisable to moor vessels outside in the open.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would inspect all vessels whether "infected" or from "infected port."

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would examine all persons on board vessels, whether "infected" or from "infected ports."

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—Only the so-called "hospital" for infectious diseases.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Only the so-called "hospital" for infectious disease.

l. Means provided for Transfer of infected Persons from Ship to Hospital. None.—

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods.—The Medical Officer of Health stated that he would (*a*) burn infected clothes, and (*b.*) disinfect the ship by sulphur fumigation, lime washing, and swabbing down with corrosive sublimate and carbolic acid solutions; (*c*) no means of disinfecting "*goods.*"

n. Arrangements as to the disposal of the Dead.—None; no difficulty anticipated.

o. Action as to Water Supply of Vessels from Infected Ports.—The Medical Officer of Health stated that he would have the water tanks cleansed and emptied. Fresh water would be supplied at the expense of the Urban Sanitary Authority from the town supply.

p. Action as to Bilges of Vessels from Infected Ports.—The Medical Officer of Health stated that he would have the bilges of vessels from infected ports pumped out and disinfected with corrosive sublimate or carbolic acid solutions.

Final Conference with the Aberystwith Urban Riparian Sanitary Authority was held on September 25th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisances and of unwholesome conditions generally.
2. The provision of proper means for the isolation of the sick, such provision to include a properly-equipped laundry, a mortuary, and a disinfecting apparatus.

Action taken by Urban Riparian Sanitary Authority since Inspection.

The Harbour Master has been directed to communicate with the Medical Officer of Health and the Sanitary Inspector immediately on the arrival of any vessel entering this district, and these officials have been instructed to make a regular and thorough supervision of all such vessels. [Letter from the Urban Sanitary Authority, dated October 21st, 1893.]

TOWYN URBAN RIPARIAN SANITARY DISTRICT.

[Aberystwith Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* July 19th and 20th, 1893.

This Riparian District is under the jurisdiction of the Towyn Urban Sanitary Authority. The coastline extends from the mouth of the River Dysynna on the north, to the mouth of the River Dovey on the south, and thence along the middle line of the latter river to a point immediately above the railway bridge which crosses the river below Pennal.

Shipping Trade:

FOREIGN.—*Baltic Ports,* North America, Australia.

Exports.—Slates.

Imports.—Timber and Grain.

COASTWISE.—*Liverpool,* Bristol, London, and small ports along the west coast. There is also some traffic with Ireland.

Exports.—Slates.

Imports.—Timber, grain, coal.

No passengers, and no rag trade.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	4	2,078	3	1,297	2	988
	Sailing	4	751	6	924	5	761
	Fishing	—	—	—	—	—	—
Total Foreign		8	2,829	9	2,221	7	1,749
Coastwise	Steamers	56	3,850	60	3,920	57	3,500
	Sailing	38	1,784	72	3,381	80	4,383
	Fishing	—	—	—	—	—	—
Total Coastwise		94	5,634	132	7,301	137	7,883

The fishing boats that belong to the Port are employed solely in local fishing.

The River Dovey is navigable for shipping for 1½ miles above the bar, and vessels may run up at least 2 miles. Small vessels laden with gunpowder have gone up to Glendovey Junction, a distance of 7 miles from the bar.

The Cambrian Railway conveys goods from this Riparian District. There is also a railway between Abergaynolwyn and Towyn to facilitate the transport of slates.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (H. S. Varley Grosholz, M.R.C.P.I.) is acquainted with the requirements of the Cholera Regulations, and is prepared to carry them out. The Urban Inspector of Nuisances (Edward Williams) has, as will be seen from the following table, exercised some supervision over the shipping entering this district.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	5	1	1
		Sailing	4	—	—
		Fishing	—	—	—
		Total Foreign	9	1	1
	Coastwise	Steamers	5	—	—
		Sailing	12	—	—
		Fishing	—	—	—
		Total Coastwise	17	—	—
1891	Foreign	Steamers	3	2	2
		Sailing	4	—	—
		Fishing	—	—	—
		Total Foreign	7	2	2
	Coastwise	Steamers	7	—	—
		Sailing	13	—	—
		Fishing	—	—	—
		Total Coastwise	20	—	—
1892	Foreign	Steamers	2	1	1
		Sailing	4	1	1
		Fishing	—	—	—
		Total Foreign	6	2	2
	Coastwise	Steamers	15	—	—
		Sailing	11	—	—
		Fishing	—	—	—
		Total Coastwise	26	—	—

* Fishing boats, only those belonging to the port, which leave the port and return to same. Absence, one to three days.

The Sanitary Authority does not possess an isolation hospital, a disinfecting apparatus, or a mortuary.

The Infectious Disease (Notification) Act, 1889, was adopted May 1st, 1890, when measles was added to the list of notifiable diseases. No regulations have been made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDER.

a. Customs Boarding Station or Stations.—A little to the westward of the town in the River Dovey. There is a landing here belonging to the Cambrian Railway Company. There is no resident Custom House Officer. The Principal Officer of Customs attends "as required" from Aberystwith. There is no Coastguard Station. Mr. Hugh Morris acts as a Custom House Officer as "Glut Out-door Officer." He communicates with the Custom House Officer at Aberystwith.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—Mr. Hugh Morris telegraphs the arrival of a

vessel from "foreign" to the Custom House Officer at Aberystwith. This Officer then comes over from Aberystwith; and, should he find sickness on board, he would communicate with the Sanitary Authority. The Inspector of Nuisances resides at Aberdovey. The Medical Officer of Health resides at Towyn. The pilots have the ordinary notification issued by the Customs to pilots.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—None made at date of inspection.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—There are no means provided. The Medical Officer of Health would hire a boat. The Customs have no boat.

e. Mooring Station.—None fixed.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health stated that he would inspect all vessels whether "infected" or from "infected ports."

g. Examination of Persons on Vessels (infected" or from "infected port").—The Medical Officer of Health stated that he would examine all persons on board whether "infected" or from "infected ports."

h Address Book.—None provided.

i. Special Isolation Provision for Cholera.—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—The Medical Officer of Health would detain the "suspect" on board the ship.

l. Means provided for transfer of infected Persons from Ship to Hospital.—No means provided. No ambulance of any kind. No stretcher.

m. Arrangements made for disinfection of (a) Clothes, (b) Ship, (c) Goods.—The Medical Officer of Health stated that (*a*) he would burn infected clothes, and that the Sanitary Authority would compensate owners; (*b*) he would disinfect the ship with sulphur fumigation, lime-washing, and with Jeye's solution; (*c*) no means of disinfecting goods.

n. Arrangements as to disposal of the Dead.—No arrangements made for disposing of the dead. No difficulty anticipated.

o. Action as to Water Supply of Vessels from Infected Ports.—The Medical Officer of Health stated that he would have the water tanks of vessels from infected ports pumped out and cleaned; fresh water would be supplied at the expense of the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports.—The Medical Officer of Health stated that he would have the bilges of vessels from infected ports pumped out, and disinfected with Jeye's solution.

Final Conference with the Towyn Urban Riparian Sanitary Authority was held on September 26th, 1893, when formal recommendations were made with regard to the following matters:—

(1.) The necessity of securing the regular and thorough inspection of shipping under the Public Health Acts.

(2.) The special duties devolving upon the Sanitary Authority under the Cholera Orders, especially as regards:—

(*a.*) The necessity of at once, in conjunction with the chief officer of Her Majesty's Customs for the district, proceeding to fix a suitable mooring station.

(*b.*) The necessity of carrying out the medical inspection of the crews and passengers on board vessels reported as infected with cholera, and the desirability of extending this inspection to all vessels from ports either known to be, or suspected to be, infected with cholera.

(*c.*) The obligation of providing for the removal of cholera sick patients from ship to hospital, or other suitable place appointed for that purpose by the Sanitary Authority.

ACTION TAKEN BY THE URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

The Medical Officer of Health and Inspector of Nuisances ordered to make inspection of all vessels entering the District.

The Medical Officer of Health directed to inspect all passengers coming from "infected" or "suspected" Port. [Letter from the Urban Riparian Sanitary Authority, dated 16th October 1893.]

Mooring Station was fixed in conjunction with the Chief Officer of Customs for the District.

Satisfactory arrangements made to enable the Medical Officer of Health to inspect all "infected" or "suspected" vessels. [Annual Report for 1893 of Medical Officer of Health).

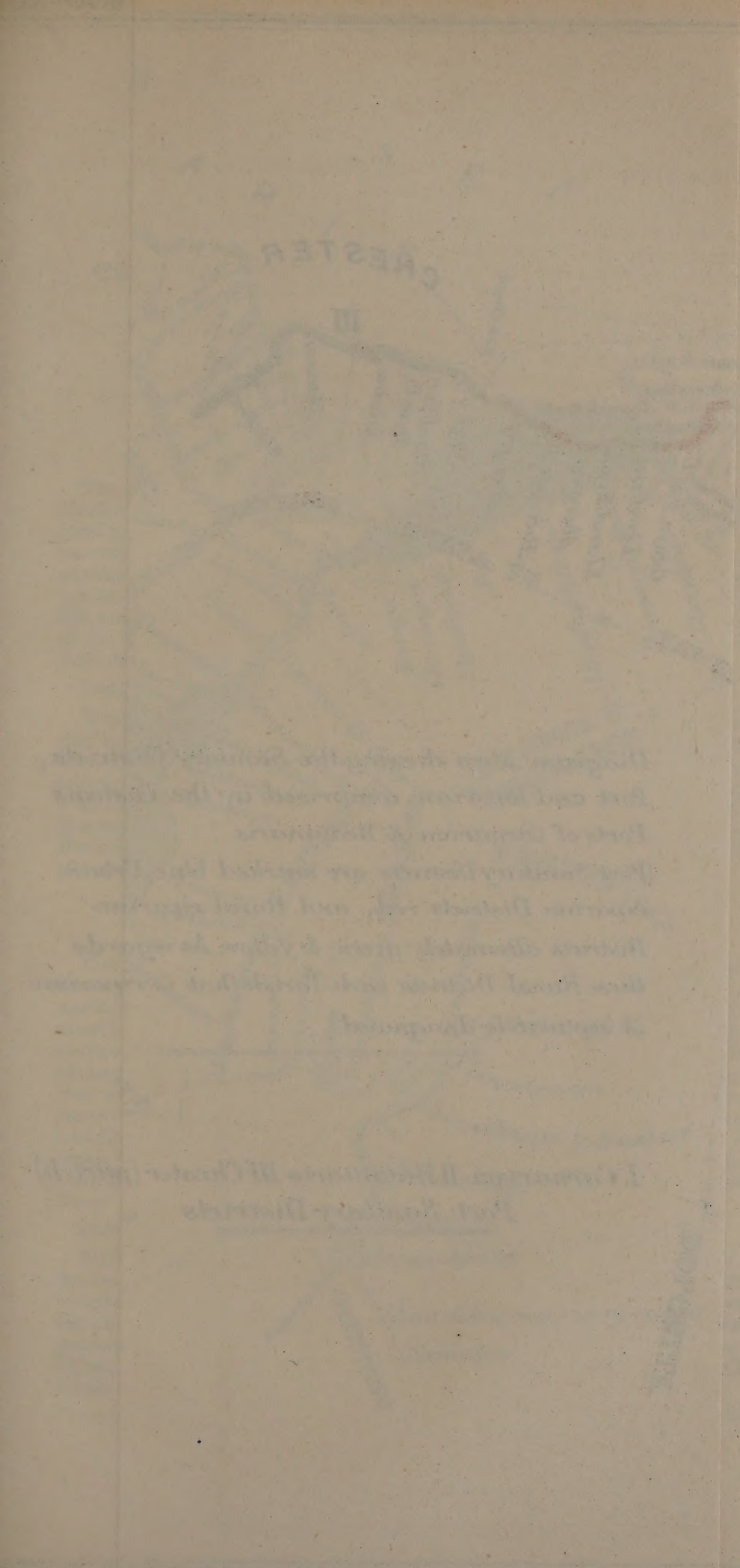


Diagram Map showing the Sanitary Districts, Port and Riparian, comprised in the Customs Ports of Carnarvon & Beaumaris.

[Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts alternately green & yellow. As regards these Rural Districts each Parish that is riparian is separately designated.]

I Carnarvon II Beaumaris III Chester (part b)
Port Sanitary Districts

WYMAN AND SONS, LTD. LITH. 63 CARTER LANE. E.C.

SECTION XVIII.

Customs Ports of Carnarvon and Beaumaris.

Illustrated in Map XVIII.

Limits of Customs Ports.

(57.) *Carnarvon.*

The limits of the said Port shall commence at the north bank of Machras Haven, being the northern limits of the Port of Aberystwith, and continue in a northerly direction along the Coast of the county of Carnarvon to the Menai Strait, including the mouth of the said Strait, and within the same to the Britannia Rock, thence from a straight line drawn across the said Strait, on the south side of the said Britannia Rock along the south and west coasts of the Island of Anglesey, to the south-east side of the River Malltraeth, in the said Isle, being the southern limits of the Port of Beaumaris, and shall*

Date of Treasury Warrant, 5th day of July 1865.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Carnarvon, the Urban Riparian Sanitary Districts of Festiniog, Ynyscynhaiarn (Port Madoc), Criccieth, and Pwllheli. and certain Riparian Parishes of the Rural Sanitary Districts of Festiniog and Pwllheli. The shipping trade is practically confined to the Carnarvon Port Sanitary District and the Urban Riparian Districts of Ynyscynhaiarn and Pwllheli, reports as to each of which will be found at pages 577, 570 and 574 respectively.

(58.) *Beaumaris.*

The Port of Beaumaris shall commence from the south side of the Swelly Rocks, in the Menai Strait, and along the east side of the same north-east, including Conway, to Great Ormshead, and from thence to the mouth of the River Clwyd, near Rhuddlan, and along the south side thereof eastwardly, and from Great Ormshead to the Point of Linns, in the County of Anglesey north-west, and from thence to the east side of Cemlyn Bay. westwardly, including all the north and east coast of Anglesey, from the south side of the Swelly Rocks to the east side of Cemlyn Bay aforesaid, and from thence, including the Skerry Island, to the North Stack of Holyhead, westwardly, and from thence to the South Stack, south-west, and then along the south coast of Anglesey aforesaid to the mouth of the River Malltraeth, and including*

Date of Treasury Warrant, 6th day of November 1844.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Beaumaris, the Urban Riparian Sanitary District of Holyhead, and certain Riparian Parishes of the Rural Sanitary Districts of Holyhead, Anglesey, and Bangor and Beaumaris. The shipping trade is practically confined to the Beaumaris Port Sanitary District and the Urban Riparian District of Holyhead, reports as to each of which will be found at pages 587 and 583 respectively.

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* See footnote, page 78, *ante.*

YNYSCYNHAIARN (PORT MADOC) URBAN RIPARIAN SANITARY DISTRICT.

[Carnarvon Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* August 17th and 18th, 1893.

This Riparian District is under the jurisdiction of the Local Board of Ynyscynhaiarn, a board consisting of nine members. The coastline of the district extends from the common boundary of the parishes of Ynyscynhaiarn and Treflys on the west to the common boundary of the parishes of Ynyscynhaiarn and Llanfihangel-y-Traethau in the east. The latter boundary is along the centre of the river Glaslyn from Lewis Island upwards.

Shipping Trade:—

FOREIGN.—Dunkirk, Bremen, Rotterdam, Frederickstadt, Nantes, St. Malo, Darien, Papenburg, *Harburg*, Port Rieux, Concarneau, Gottenburg, Havre, Morlaix, Copenhagen, Kiel, Rostof, Boulogne, Rouen, Brest, Guernsey, Halifax.

Imports.—Onions and timber.

Exports.—Slates.

COASTWISE.—*Cardiff*, *Liverpool*, London, Dublin, Belfast, Cork, Newport, Swansea, Plymouth, Southampton, Exeter, Bristol, Poole, Londonderry, Wexford, Shoreham, Newhaven, Glasson Dock, Limerick, Glasgow, Stranraer, Runcorn.

Imports.—Coal, timber, limestone, manufactured articles, beer.

Exports.—Slates.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS 1890–91–92:—

		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	nil.	nil.	nil.	nil.	nil.	nil.
	Sailing	51	6,505	53	7,378	35	4,893
	Fishing	nil.	nil.	nil.	nil.	nil.	nil.
Total Foreign		51	6,505	53	7,378	35	4,893
Coastwise	Steamers	nil.	nil.	nil.	nil.	nil.	nil.
	Sailing	652	54,059	721	58,290	890	69,904
	Fishing	nil.	nil.	nil.	nil.	nil.	nil.
Total Coastwise		652	54,059	721	58,290	890	69,904

The railways conveying goods from this Riparian District are the Cambrian and the Festiniog Railways.

Chief Facts reported as regards Administration.—Dr. Peter Fraser (M.D., B. Sc. Edin.) had at the time of inspection been appointed to act as deputy for the Medical Officer of Health for the Carnarvonshire Combined District, who was ill. As Dr. Fraser resided at Carnarvon arrangements were made whereby a resident general practitioner would act for him in case of necessity. The port work of the Medical Officer of Health has hitherto been practically confined to the visitation of ships arriving from "infected ports." The Urban Inspector of Nuisances (Mr. D. S. Davies) apparently

visits a small number of vessels, but up to the date of inspection he had not found any defective condition to be in existence thereon. The Urban Sanitary Authority possess a small cottage in an isolated situation at Glandon, Morfa Bychan which it was proposed to use in case of necessity for the isolation of cholera patients. It is an old one-roomed cottage standing amongst hillocks of drift sand. The walls are of stone and have been whitewashed, the floor and ceiling are boarded. In one corner of the room a removable wooden screen, 6 ft. 6 ins. high, had been provided for "the nurse to undress behind." No fittings of any kind had at the time of inspection been provided, nor had any nursing arrangements been made. No means of drainage had been provided. It was proposed to obtain water from a well situated at a distance of some 200 yards from the cottage. The cottage, which is situate upwards of two miles from Portmadoc, is only about a hundred yards from the shore, opposite to the Mooring Station. The Sanitary Authority had not made any ambulance provision of any sort, nor had it provided any disinfecting apparatus. A small mortuary situate about 150 yards from the docks has been provided by the Urban Sanitary Authority. No regulations under section 125 of the Public Health Act, 1875, have been made. The Infectious Disease (Notification) Act, 1889, was adopted April 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—The Customs Boarding Station is at Pwllglanymor, about one mile inside the Bar and two miles from the town; and, when possible, vessels are boarded here by the Custom House Officer when the vessel is known to have come from an infected port. The Pilots have instructions to take all vessels here when there is sickness on board. Generally, however, vessels are brought into the harbour by the Pilots, and the Customs Quarantine Questions are put to the master from the quay or on board the vessel.

The Customs Authority at Portmadoc have no boat of their own. Generally a boat is hired for a year at 4*l.* per annum. The Staff consists of a Principal Coast Officer who is assisted by an Outdoor Officer. In the absence of this latter gentleman a "Glut Outdoor Officer" is taken on to do his work. The Principal Coast Officer also does the custom work at Pwllheli and Criccieth. There is no Coastguard.

b. Arrangements as to detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—There is compulsory pilotage here, the Pilots being under the Trinity Board, London. There are six Pilots. The navigation is difficult, and as the vessels which trade to the port are almost without exception sailing vessels, it is compulsory for them to be towed in and out. It is only when certain winds prevail from the S.W. that vessels can sail in, and even then they have to pay for the tug. The Bar is difficult and "sinuous," and no vessels ever come in except in broad daylight. There are two tug boats which belong to the Portmadoc Steam Tug Company, Limited. These tugs tow out the pilot cutters to a convenient distance, and then cast them off at a favourable opportunity. The cutters put the Pilots on board the ships, and the tug then takes the ship in tow. The usual method in which the work is done is as follows:—

The Pilots, for their own convenience, keep watch for the vessels, and when a vessel comes in sight which is suspected to come from an "infected port," the Pilots send for the Custom House Officer and for the Clerk of the Urban Sanitary Authority. The Clerk communicates with the Medical Officer of Health and the Inspector of Nuisances, and they all go out in the tug.

A boat has been utilised when the Pilots have taken the vessel to Pwllglanymor.

The Pilots have been instructed to take vessels on board of which there is sickness, or when the vessel has come from a port "infected" with cholera to Pwllglanymor. The tug returning communicates the detention of the vessel to the Custom House Officer and the Clerk of the Urban Sanitary

Authority. The Custom House Officer then visits the vessel, generally accompanied by the Inspector of Nuisances and the deputy Medical Officer of Health. As a rule they are taken to the vessel by the tug. The Medical Officer of Health lives at Carnarvon and oftentimes would experience difficulty in getting to the detained ship.

c. Arrangements for Communication between Officers detaining Vessels and Medical Officer of Health.—Arrangements have been made for the Clerk to arrange for a local medical practitioner to go to the ship. This duty has heretofore generally fallen to the lot of Dr. Griffiths, who is Chairman of the Urban Sanitary Authority.

d. Means provided, or facilities given, for Conveyance of Medical Officer of Health to Ships.—The Urban Sanitary Authority possesses no boat, but state that there would be no difficulty experienced in hiring one at Port-Madoc or Borth. However, the steam tug mentioned above is generally used.

e. Mooring Station.—The Mooring Station is at Pwllglanymor, the same place as the Boarding Station.

The Mooring Station is apparently the most satisfactory one that could be selected.

f. Inspection of Vessels ("infected" or from "infected port").—The Deputy Medical Officer of Health stated that he would inspect all vessels whether "infected" or from an "infected port."

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Deputy Medical Officer of Health stated that he would examine all persons on board vessels whether "infected" or from an "infected port."

h. Address Book.—The Deputy Medical Officer of Health stated that he would keep an address book.

i. Special Isolation Provision for Cholera.—The so-called hospital already referred to.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Persons "suspected" to be suffering from cholera would be detained on board the vessel and isolated.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods.—

(*a.*) The Deputy Medical Officer of Health would cause all "infected" clothes to be burnt.

(*b.*) Disinfect ship by sulphur fumigation, lime washing, and washing with carbolic acid or corrosive sublimate solutions.

(*c.*) There is no means of disinfecting goods.

n. Arrangements made as to the disposal of the Dead.—Interment of the dead would take place on land in the parish churchyard, or in the parish churchyard of Treflys by arrangement.

o. Action as to Water Supply of Vessels from Infected Ports.—The Deputy Medical Officer of Health stated that he would cause all water tanks to be emptied and cleansed before entering the harbour.

Fresh water will be supplied at the expense of the Urban Sanitary Authority from the Water Company's mains and taken out to the ship.

p. Action as to Bilges of Vessels from Infected Ports.—The Deputy Medical Officer of Health stated that he would cause all bilges of vessels from "infected ports" to be pumped out and disinfected before entering harbour.

For disinfection he would use corrosive sublimate solution for wooden vessels; and carbolic acid solution for iron vessels.

Final Conference with the Ynyscynhaiarn Urban (Riparian) Sanitary Authority was held on September 27th, 1893, when formal recommendations were made with regard to the following matters :—

1. The necessity of exercising such supervision over vessels entering the district as to secure the abatement of nuisance and of unwholesome conditions generally.

2. The special duties devolving upon the Sanitary Authority under the Cholera Orders, especially as regards :—

   (*a.*) The necessity of carrying out the medical inspection of the crews and passengers on board vessels reported as infected with cholera, and the desirability of extending this inspection to all vessels from ports either known to be, or suspected to be, infected with cholera.

   (*b.*) The obligation of providing for the removal of cholera sick patients from ship to hospital or other suitable place appointed for that purpose by the Sanitary Authority.

ACTION TAKEN BY THE RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

(*a.*) That under the provisions of article 110 of the Public Health Act, 1875, the Sanitary Inspector be instructed to continue to inspect all vessels on their arrival in Port.

(*b.*) That the Cemetery Chapels (not hitherto used as such) be used as hospitals for infectious diseases if required.

(*c.*) That quotations for ambulance and disinfecting apparatus be obtained for next meeting.

(Letter from the Urban Sanitary Authority, 12th October 1893.)

The Board wrote to the Sanitary Authority (23rd October 1893) to the effect that they could not regard the proposal to use the Cemetery Chapels as hospitals for infectious cases as a proper one.

Choleraic diarrhœa added to the list of notifiable diseases for a period of twelve months, March 13th, 1894.

PWLLHELI URBAN RIPARIAN SANITARY DISTRICT.

[Carnarvon Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* August 14th, 15th, 1893.

This Riparian District is under the jurisdiction of the Town Council of the Borough of Pwllheli. The coastline extends from the common boundary of the Pwllheli Urban District and of Abererch parish on the east to the common boundary of the Pwllheli Urban District and of Penrhos parish in the west.

Shipping Trade:—

FOREIGN.—Gothenberg (one vessel annually), Dunkirk, United States, and Canada.

Imports.—Timber.

Exports.—None.

COASTWISE.—London, Plymouth, Cork, Cardiff, Liverpool.

Imports. Limestone, coal, and general merchandise.

Exports.—None.

No passenger traffic.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	2	351	2	297	3	450
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	2	351	2	297	3	450
Coastwise { Steamers	—	—	18	1,047	31	2,957
Coastwise { Sailing	30	2,175	35	2,101	40	3,005
Coastwise { Fishing*	23	300	23	300	23	300
Total Coastwise	53	2,475	69	4,118	94	6,262

* Fishing boats are employed, solely in Cardigan and Carnarvon Bays, and land most of this fish at Pwllheli.

Goods are conveyed from this Riparian District by the Cambrian Railway.

Chief Facts reported as regards Administration.—The Medical Officer of Health (Hugh Rees, M.R.C.S.,) for the Carnarvon Combined District, in which Pwllheli is included, had not prior to inspection carried out any riparian duties in the district. The Urban Inspector of Nuisances (John Owen Jones), with the exception of having visited two ships in 1892, to ascertain whether there had been any sickness on board, had also apparently done no riparian work.

The Sanitary Authority does not possess either an isolation hospital or a disinfecting apparatus. It has not provided a mortuary.

The Infectious Disease (Notification) Act, 1889, was adopted March 1st, 1890. No regulations have been made under section 125 of the Public Health Act, 1875.

ARRANGEMENTS MADE TO CARRY OUT TEE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—Given officially as "At the "entrance of the harbour—by the Gimblet Rock." The Customs Officer at Port Madoc stated, however, that he did not know an official boarding station existed. There is no Coastguard. No one acts at Pwllheli as Custom House Officer. There is no Pilotage Board. Small vessels discharge in the harbour—where they must take the "mud"—and large vessels at the Gimblet Rock.

The Officer of Customs resides at Port Madoc; he has one Out-door Officer with him.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—For practical purposes the arrangement is as follows:—The Officer of Customs receives a telegram from the timber merchant, to whom most of the "foreign" coming ships bring cargoes, notifying the vessel's arrival. He then goes to Pwllheli by train from Port Madoc; thus he never sees a ship until after her arrival, and in the interval no "quarantine questions" are put to her.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—The Officer of Customs would communicate by special messenger with the Inspector of Nuisances, who would then communicate with the Medical Officer of Health, who lives in Carnarvon.

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—None.

e. Mooring Station.—No mooring station fixed.

f. Inspection of Vessels ("infected" or from "infected port").—No action taken prior to inspection.

g. Examination of Persons on Vessels ("infected" or from "infected port").—No action taken.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—None.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—None made.

l. Means provided for transfer of Infected Persons from Ship to Hospital.—None.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods.*—None made.

n. Arrangements as to the disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—None taken hitherto.

p. Action as to Bilges of Vessels from Infected Ports.—None taken hitherto.

Final Conference with the Pwllheli Urban Riparian Sanitary Authority was held on September 14th, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity of securing the regular and thorough inspection of shipping under the Public Health Acts.
2. The duties and obligations devolving upon the Sanitary Authority under the Cholera Orders of the Local Government Board.
3. The provision of sufficient and proper isolation accommodation, to include a laundry, mortuary, and efficient disinfecting apparatus.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

"All shipping is now examined by the Sanitary Inspector. A mooring place has been fixed upon by agreement with the Customs Officer." [Annual Report of the Medical Officer of Health for the year 1893.]

"A Port Sanitary Inspector has been appointed, and is in full discharge of his duties."

"A Mooring Place has been decided on." [Letter from the Sanitary Authority, dated 18th December 1894.]

Carnarvon Port Sanitary District.

[Carnarvon Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* May 12th, 1893.

Date of Order *permanently* constituting Port Sanitary District: August 15th, 1889.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "The Mayor, Aldermen, and "Burgesses of the said Borough of Carnarvon acting by the "Council." It exercises port functions in waters abutting upon the Urban Sanitary District of Carnarvon and upon portions of the Rural Sanitary Districts of Carnarvon and of Bangor and Beaumaris.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Carnarvon as lies to the eastward "of a straight line drawn from the seaward extremity of the "common boundary of the Parishes of Clynnog and Llanael-"haiarn to the limit of the said Port on the south-east side of "the River Malltraeth, togetherwith the waters,"* &c. These limits of jurisdiction are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Carnarvon Urban Sanitary District. The whole.

Carnarvon Rural Sanitary District. Parishes:—Clynnog, Llandwrog, Llanwnda, Llanfaglan, Llanfair is-Gaer, Llanidan, Llangeinwen, St. Peters Newborough.

Bangor and Beaumaris Rural Sanitary District. Parishes:—Llanfairpwllgwyngyll, Llandysilio (part of), Bangor, Llanedwen, Llangadwaladr.

4. *Apportionment of Expenses:—*

Carnarvon Urban Sanitary Authority, two thirds; Carnarvon Rural Sanitary Authority, one third. The Bangor and Beaumaris Rural Sanitary Authority is exempt from contributing to the port expenses.

5. *General Character and Efficiency of Administration:—*

Since the last inspection of this port in 1892, inspection of shipping has been better attended to. There is, however, still considerable room for improvement.

6. *Ports from whence Ships arrive.* (Ports or places (Coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*):—

(*a.*) Foreign.—Canada, Gulf of St. Lawrence, Frederickstadt, Gottingen, and occasionally with Hamburg and some of the French ports.

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* See footnote, page 89, *ante*.

(*b.*) Coastwise.—All ports of the United Kingdom, *Swansea*, *Llanelly*, *Newcastle*, Liverpool, and London.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Foreign:—

Imports: Timber.
Exports: Slates.

Coastwise :—

Imports: Coal, grain, limestone, cement, potatoes, explosives, and general merchandise.

Exports: Slates.

No rag trade, no immigrants or transmigrants or foreign-coming passengers. An excursion vessel runs from Liverpool to Llandudno and Carnarvon in the summer.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	—	—	—	—
Foreign { Sailing	9	2,980	9	2,962	11	3,135
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	9	2,980	9	2,962	11	3,135
Coastwise { Steamers	816	62,934	778	56,037	753	60,493
Coastwise { Sailing	—	—	—	—	—	—
Coastwise { Fishing*	—	—	—	—	—	—
Total Coastwise	816	62,934	778	56,037	753	60,493

* There are three local fishing boats plying from the port.

The inward foreign trade for the last three years has been confined to ports in the Dominion of Canada, Norway and Sweden. There have also been vessels in ballast from Jersey and a few from ports in France and Spain.

The coasting trade embraces nearly all ports in the United Kingdom mostly arriving in ballast with the exception of those with coal from the coal ports.

The fishing trade is confined to local vessels, there being no arrivals of foreign fishing vessels.

9. *Inland Water Communication* :—

None.

10. *Lines of Railway conveying Goods from Port* :—

London and North-Western Railway.

11. *Medical Officer of Health*: E. H. Williams.

Qualifications :—M.R.C.S., L.S.A. Salary, 20*l.* per annum; with repayment. Mr. Williams does not hold any other Sanitary appointment.

Character and efficiency of work done by Medical Officer of Health :—

The Medical Officer of Health visits and deals with ships on board of which there is infectious disease; otherwise he does not appear to pay much attention to shipping.

12. *Inspector of Nuisances:* Evan Roberts.

Qualifications:—Member Sanitary Institute. Salary 20*l.* per annum; with repayment. Mr. Roberts also holds the appointment of Inspector of Nuisances for the Urban Sanitary District of Carnarvon. Salary 60*l.* per annum.

Character and efficiency of work done by Inspector of Nuisances:—

Since the last inspection of the Carnarvon Port Sanitary District in 1892 Mr. Roberts has given a certain amount of his time to the inspection of shipping.

13. *Nuisances:*—

From the following table it will be seen that the number of vessels inspected in 1892, namely 51, is small when compared with the number of vessels entering the Port Sanitary District, namely 764. From an inspection of the books of the Port Inspector of Nuisances it would appear that the proportion inspected would be considerably greater during the year 1893.

INSPECTION OF SHIPPING IN 1890-91-92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders Issued.
1890	Foreign	Steamers	—	—	—
		Sailing	2	—	—
		Fishing	—	—	—
		Total Foreign	2	—	—
	Coastwise	Steamers	—	—	—
		Sailing	22	6	6
		Fishing	1	—	—
		Total Coastwise	23	6	6
1891	Foreign	Steamers	—	—	—
		Sailing	3	—	—
		Fishing	—	—	—
		Total Foreign	3	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	27	2	2
		Fishing	—	—	—
		Total Coastwise	27	2	2

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders Issued.
1892	Foreign	Steamers	—	—	—
		Sailing	6	3	3
		Fishing	—	—	—
	Total Foreign		6	3	3
	Coast-wise.	Steamers	3	—	—
		Sailing	42	14	14
		Fishing	—	—	—
	Total Coastwise		45	14	14

14. *Isolation Hospital :—*

The Carnarvon Urban Sanitary Authority possesses a hospital of which the Port Sanitary Authority is allowed the use. This hospital was erected in 1890, is situate about half a mile outside the town, on the side remote from the port. It is about 1½ miles from the docks. There is accommodation for 12 beds, of which six are kept in readiness. There is no room for extension on the present site. The water supply is obtained from the same source as the town. Excrement is disposed of in earth-closets, the contents of which are disinfected and buried. Slop drains have recently been relaid. There is a laundry adjoining the mortuary in the hospital grounds built close to the boundary of the site. A caretaker and his wife live in a cottage at the entrance to the grounds. They would nurse the sick until a trained nurse arrived from Liverpool.

The Urban Sanitary Authority has an ambulance, also a small covered van for the conveyance of infected bedding, &c., and a stretcher.

As this hospital stands on high ground behind the town it is not conveniently situated for the reception of infectious diseases from shipping. All the patients would have to be taken through the town.

15. *Disinfecting Apparatus :—*

The Port Authority has no disinfecting apparatus, but use a hot-air chamber belonging to the Carnarvon Corporation. This apparatus is at the Urban hospital, is of local construction, said to be similar to those used in H.M. prisons. The heat is supplied from a furnace. There are no means of ascertaining the temperature. Goods are put in and taken out at the same door. The apparatus is apparently useless.

16. *Mortuary :—*

There is a Mortuary at the Urban hospital.

There is also a Mortuary, 12 feet by 10 feet, situate on the quay, in front of the town. It has hitherto been used apparently for storing tools, &c.

17. *Regulations under section* 125 *Public Health Act*, 1875 :—
None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—
Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

At Bryuglas vessels are stated to be visited and boarded by the Customs Officers opposite the Bell Tower of the Castle.

There are docks and landing stages at Carnarvon, and also at Port Dinorwic, where there is no Officer of Customs. Vessels are also unloaded at various parts of the Port Sanitary District on the beach.

There is no compulsory pilotage, though the navigation is very difficult and dangerous, and vessels practically always carry a Pilot. These Pilots are licensed by the Trinity Board, London. There is a Pilotage Sub-Commission at Carnarvon.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Customs would detain vessels with sickness on board for the purpose of examination of the crew by the Port Medical Officer of Health.

The Pilots are instructed to take vessels with sickness on board to the mooring station.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Customs would communicate with the Port Medical Officer of Health by special messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

No means of conveyance provided by the Port Sanitary Authority.

The Port Medical Officer of Health would be conveyed to the vessel by the Customs in their boat.

e. Mooring Station :—

The mooring station is in the Menai Straits, 1½ miles south-west of Carnarvon. It has been approved of by the Customs. The station is satisfactory.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health stated that he would inspect all vessels, whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected ports") :—

The Port Medical Officer of Health stated that he would examine all persons on board vessels, whether "infected" or from "infected ports."

h. Address Book :—

Not kept hitherto.

i. Special Isolation Provision for Cholera :—

The sick would be conveyed to the Urban Sanitary Authority's hospital.

k. Arrangements for Isolation of Persons supected to be suffering from Cholera :—

Any suspected case of cholera would be conveyed to the Urban Sanitary Authority's Hospital.

l. Means provided for transfer of infected Persons from Ship to Hospital :—

None.

m. Arrangements made for disinfection of (a) Clothes, (b), Ship, (c) Goods :—

(*a.*) Clothes would be burnt.
(*b.*) Ships disinfected by sulphur fumigation and lime washing.
(*c.*) There are no means of disinfecting goods.

n. Arrangements made as to the Disposal of the Dead :—

None made.

o. Action as to Water Supply of Vessels from infected Ports :—

The Port Medical Officer of Health stated that he would, if necessary, order the water tanks to be emptied and cleansed. Fresh water would be supplied at the expense of the Port Sanitary Authority.

p. Action as to Bilges of Vessels from infected Ports :—

The Port Medical Officer of Health stated that he would order the bilges of vessels from infected ports to be pumped out, and disinfected with a solution of carbolic acid (1 to 20); or with a solution of corrosive sublimate (1 in 1,000).

Final Conference with the Carnarvon Port Sanitary Authority was held on June 6th, 1893, when formal recommendations were made with regard to the following matters :—

1. The adoption of the Infectious Disease (Notification) Act, 1889.
2. The provision of an efficient disinfecting apparatus.
3. The necessity of being prepared beforehand, in the event of any marked extension of cholera in Europe, with arrangements for securing the medical inspection of all vessels entering the port.

Action taken by the Port Sanitary Authority since Inspection.

During the prevalence of cholera in the autumn of 1893, all vessels entering the port were apparently inspected by the Port Medical Officer of Health. [Annual Report of Port Medical Officer of Health for 1893.]

HOLYHEAD URBAN RIPARIAN SANITARY DISTRICT.

[Beaumaris Customs Port (part of).]

Inspector: Dr. R. J. Reece. *Date of Inspection:* 7th, 8th, and 9th June, 1893.

1. *Sanitary Authority.*—The Local Board for the district of Holyhead acting as the Urban Sanitary Authority.

2. *Limits of Judisdiction.*—Riparian from the north end of Towyn Bay to Ynyswellt Point (practically to the land end of the breakwater). This portion of coastline is not very extensive.

3. *Parishes of Sanitary District which are Riparian.*—Holyhead Parish.

4. *General Character and Efficiency of Administration.*—The Medical Officer of Health or his deputy have gone off to all vessels detained under the Cholera Orders.

Otherwise there is no sanitary administration of shipping.

Ports from whence Ships arrive.—(Ports or places (British and Foreign) with which Riparian District has more trade, or is in more frequent communication, are printed in *italics*) :—

FOREIGN.—*Antwerp, Hamburg, Treport,* Huelva, Christiansand, Frederikstadt, Jersey, Rotterdam, Bordeaux, Bilbao, Carthagena, San Francisco.

BRITISH.—*Dublin, Liverpool, London, Pentewyn,* Runcorn, Greenore, Par, Mostyn, Connah's Quay, Barrow, Falmouth, Plymouth.

Trade with the Channel Isles in the months of June and July, with new potatoes, fruit, and passengers — three steamers running, arriving every alternate day.

Character of Trade:—

FOREIGN.—*Exports.* None.

Imports.—Timber, potatoes, and fruit.

BRITISH.—*Exports.* Pipe-clay and general merchandise.

Imports.—General merchandise.

The inner harbour is used by the London and North-Western and City of Dublin Companies' steamers, and the principal trade arises from the mail, passenger, and general goods traffic to and from Ireland.

No rags, no immigrants, or transmigrants.

7. *Amount of Shipping Inwards during three years,* 1890–91–92.

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	15	3,693	17	4,465	15	5,731
	Sailing	3	743	—	—	1	475
	Fishing	Nil	—	Nil	—	Nil	—
Total Foreign		18	4,316	17	4,465	16	6,206
Coastwise	Steamers	Not divided in yearly return.			—	—	—
	Sailing				—	—	—
	Fishing	Nil	—	—	—	—	—
Total Coastwise		2,460	913,834	2,468	961,691	2,503	976,228

In addition to these figures about 31 sailing and 51 steamers from foreign and 2,000 odd coasting vessels put into Holyhead Harbour during the year,

windbound, or for orders, or to coal, and also many vessels outward bound (foreign) from Liverpool.

The greater portion of the shipping entering the Holyhead Urban Sanitary Authority's jurisdiction is composed of the passenger steamers, 3 daily, and cargo boats, 2 daily, running to Ireland and owned by the London and North-Western Railway Company and the steamers of the City of Dublin Steam Packet Company carrying the mails. The remainder of the traffic is inconsiderable. The harbour is used greatly by vessels as a harbour of refuge. The Customs board as many of these vessels as they conveniently can.

8. *Inland Water Communication.*—None.

9. *Railways conveying Goods from Riparian District.*—London and North-Western Railway.

10. *Medical Officer of Health.*—William Evans. Qualifications, L.R.C.P., M.R.C.S. Salary, 125*l.* per annum, with repayment. This salary is for an United District—which includes, besides the Holyhead Urban Sanitary District, the Anglesea Rural Sanitary District, the Holyhead Rural District, and the Beaumaris Urban Sanitary District.

Character and efficiency of Port work done by Medical Officer of Health.—The Urban Sanitary Authority of Holyhead pays 22/200 of the salary of the Medical Officer of Health. He inspects ships from cholera infected ports when called to them, but otherwise does no Port work.

The Medical Officer of Health lives 13 miles from Holyhead.

11. *Inspector of Nuisances.*—Rees Lloyd Davies. No special qualifications. Salary, 30*l.* per annum, with repayment.

Mr. Davies also acts as surveyor and collector of rates and taxes (Local Board).

Character and efficiency of Port work done by Inspector of Nuisances.—Mr. Davies states that he had never been told by the Urban Sanitary Authority to inspect shipping and has never inspected any shipping. On further inquiry the Inspector elicited the fact that he had boarded vessels suspected of having cholera on board, but could not discover that he did more than ask whether the disease was on board. He seemed to have a general idea that a vessel should not be "dirty"—but that was all.

12. *Nuisances.*—Never dealt with.

13. *Isolation Hospital.*—The Holyhead Urban Sanitary Authority stated that they had made arrangements for persons suffering from infectious disease on board the shipping in their district, to be removed to the isolation block of the hospital on Salt Island. This hospital, which is supported by voluntary contributions, is readily accessible from the harbour, being only a few yards from the landing stage. It is situated on a small island (Salt Island) connected with Holyhead by a bridge. The hospital is a stone building and is inclosed. The infectious diseases block stands by itself, but is only separated from the caretaker's cottage in the main block by about 12 feet. It contains one large ward 24 ft. × 20 ft. × 16 ft. The water closet is not separated from the ward by a cross ventilated lobby. Special nurses would be provided. No means are provided for the conveyance of the sick from ship to hospital. If necessary, tents could be pitched in the hospital ground or alongside. Holyhead water is laid on. The drainage is supposed to empty on the beach. There is a laundry at the hospital. Excrement would be disinfected and buried.

The Urban Authority possesses an ambulance which, at the time of inspection had been newly painted inside, and was apparently used as a store for paint pots, brushes, pickaxe handles, &c., belonging to the Authority.

14. *Disinfecting Apparatus.*—None.

15. *Mortuary.*—There is a mortuary inside the hospital grounds which would be utilised. It is a substantially built stone house, and could accommodate about four bodies.

16. *Regulations under Section* 125 *Public Health Act,* 1875.—None made.

17. *Infectious Disease (Notification) Act,* 1889.—Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—"In the harbour on a line drawn from the end of the breakwater to the end of the pier." The Boarding Station is the same for foreign and coasters.

The places of debarkation are the Quays in the inner harbour and (Mr. Williams's Dock) in the outer harbour, and occasionally a vessel "coals" by the breakwater. There is not necessarily a Custom House Officer on duty at each place at all times. A Chief Officer, an Outer Officer and three Boatmen constitute the Customs Staff. Procedure is the same by day and night. Watch at night kept by the Coastguard (7 men on this station). Coasters are only boarded on arrival occasionally, but all are boarded if staying any length of time, but are not when the Jersey boats are running on account of the extra work thrown upon the Customs House staff at such periods.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—Pilots have no special instructions, there are four licensed—There is a Trinity Pilots' Sub-Commission in this district. If sickness is on board a vessel the Pilot would not board (without the master of the vessel demanded that he should) but would direct vessel from his boat. (Information from William Owen, licensed Pilot). The Customs would detain and send the vessel to the mooring station. The Coastguard never act as Customs Officers.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—The Customs Officer communicates with the Inspector of Nuisances or with the Clerk, who communicates with the Medical Officer of Health.

The Medical Officer of Health has appointed privately a deputy to act in emergency but declines to continue this arrangement, having to pay his deputy two guineas a visit and the Holyhead Urban Sanitary Authority only contributing 9*l.* 2*s.* 4*d.* per annum towards his salary.

The Inspector of Nuisances or clerk telegraphs to the Medical Officer of Health by day, special messenger driving by night. The Medical Officer of Health comes to Holyhead by train or driving.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—The Medical Officer of Health has hired a boat. But at the date of the Inspector's visit the Chief Officer of Her Majesty's Customs offered to take the Medical Officer of Health out to a vessel in the Customs boat.

e. Mooring Station :—In the harbour on a line drawn from the end of the breakwater to the end of the pier under shelter of the breakwater.

This spot has been approved of by the Board of Trade Harbour Master and the Chief Officer of Her Majesty's Customs and the Sanitary Authority.

f. Inspection of Vessels ("infected" or from "infected ports"):—The Medical Officer of Health stated that he would inspect all vessels, whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected ports"): —The Medical Officer of Health stated that he would examine all persons on board vessels, whether "infected" or from "infected ports."

h. Address Book :—The Medical Officer of Health has kept addresses, but no book.

i. Special Isolation Provision for Cholera :—The Medical Officer of Health stated that he would have patients removed to the hospital.

k. Arrangements for Isolation of Persons Suspected to be suffering from Cholera :—The Medical Officer of Health stated that he would have persons suspected to be suffering from Cholera removed to the hospital.

l. Means provided for Transfer of Infected persons from Ship to Hospital—The Medical Officer of Health stated that he would use ship's boat or hire a boat in the harbour.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ships,* (*c*) *Goods :*— The Medical Officer of Health stated that he would (*a*) burn infected clothes; (*b*) disinfect ship by means of sulphur fumigation and washing with solution of

corrosive sublimate 1 in 1,000 or carbolic acid solution 1 in 20; (*c*) no means of disinfecting goods.

n. Arrangements as to the disposal of the Dead:—None made. No difficulty anticipated.

o. Action as to Water Supply of Vessels from Infected Ports:—The Medical Officer of Health stated that he would have water tanks pumped out and cleaned, and fresh water would be supplied at the expense of the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports:—The Medical Officer of Health stated that he would have bilges of vessels from infected ports pumped out, and would use for disinfection a solution of corrosive sublimate 1 in 1,000 for wooden vessels, and a solution of carbolic acid 1 in 20 for iron ships.

Final Conference with the Holyhead Urban Riparian Sanitary Authority was held on September 15th, 1893, when final recommendations with regard to the following matters were made:—

1. The necessity for the regular and thorough supervision of all vessels entering the district, so as to secure the abatement of nuisances and of unwholesome conditions generally.
2. The arrangements to be made beforehand to secure, if necessary, the medical inspection of all vessels entering the district both by night and by day.
3. The provision of suitable means for the conveyance by water of the inspecting officers of the Authority and of persons suffering from infectious diseases.

Action taken by Urban Riparian Sanitary Authority since Inspection.

The Sanitary Authority resolved that Dr. O. Trevor Williams, Holyhead, the Union Medical Officer, be appointed to inspect ships coming into Holyhead Harbour from ports infected with cholera, and that the Sanitary Authority will undertake to find a boat and men to take him to each vessel which is to be inspected. [Letter from the Sanitary Authority dated 10th November 1893.]

Beaumaris Port Sanitary District.

[Beaumaris Customs Port (part of).]

Inspector : Dr. R. J. Reece. *Date of Inspection :* May 13th, 1893.
Date of Order *permanently* constituting Port Sanitary District : January 1st, 1889.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is a Joint Board termed "The Beaumaris Port Sanitary Authority," and consists of eleven members, composed of representatives of the Urban Sanitary Authorities of Bangor, Beaumaris, Conway, Dwygyfylchi,* and of Menai Bridge, and the Rural Sanitary Authority of Bangor and Beaumaris as follows :—

Bangor Urban Sanitary Authority, three members.
Beaumaris Urban Sanitary Authority, one member.
Conway Urban Sanitary Authority, three members.
Dwygyfylchi Urban Sanitary Authority, one member.
Menai Bridge Urban Sanitary Authority, one member.
Bangor and Beaumaris Rural Sanitary Authority, two members.

The Joint Board exercises port functions in waters abutting upon the Sanitary Districts named above.

2. *Limits of Jurisdiction :—*

So much of the Port of Beaumaris "as lies within a straight line drawn across the Menai Straits from the south-eastern to the north-western extremity of the Menai Suspension Bridge, a line drawn from the north-western extremity of the said bridge along the shore of the Island of Anglesey to Trwryndû Point, a straight line drawn from the said Point to the south-western extremity of Puffin Island, a line drawn along the south-eastern shore of the said Island from the south-western to the north-eastern extremity thereof, a straight line drawn from the north-eastern extremity of the said Island to Tremlyd Point, a line drawn from the said Point in a southerly and south-easterly direction along the shore of the Parish of Eglwys Rhos to the north-eastern extremity of the Railway Bridge over the River Conway, a straight line drawn across the river from the north-eastern to the south-western extremity of the said Bridge, and a line drawn thence along the shore of the Parishes of Conway, Dwygyfylchi,* Llanfairfechan, Aber, Llanllechid, Llandegai, and Bangor to the south-eastern extremity of the Menai Suspension Bridge, together with the waters,"† &c.

The limits of jurisdiction are apparently satisfactory.

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* Now Penmaenmawr.
† See page 89, *ante*.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District*:—

Beaumaris Urban Sanitary District. Parishes:—Llanfaes, Beaumaris.

Menai Bridge Urban Sanitary District. Parish:—Llandysilio (part of).

Llanfairfechan Urban Sanitary District.

Bangor Urban Sanitary District.

Conway Urban Sanitary District.

Penmaenmawr (Dwygyfylchi) Urban Sanitary District.

Bangor and Beaumaris Rural Sanitary District. Parishes:—Penmon, Llandegfan, Llandisilio (part of), Aber, Bangor (part of), Llandegai Llanllechid.

Conway Rural Sanitary District. Parishes:—Eglwys, Rhôs (part of), Gyffin, Llangwestennin.

4. *Apportionment of Expenses*:—

The Riparian Authorities named below contribute towards the expenses of the Port Sanitary Authority in the following proportions:—

Bangor Urban Sanitary Authority	- Five-twentieths.
Beaumaris Urban Sanitary Authority	- Two-twentieths.
Conway Urban Sanitary Authority	- Five twentieths.
Penmaenmawr (Dwygyfylchi) Urban Sanitary Authority - -	- Two-twentieths.
Menai Bridge Urban Sanitary Authority	- Two-twentieths.
Bangor and Beaumaris Rural Sanitary Authority - -	- Two-twentieths.

5. *General Character and Efficiency of Administration*:—

The Port Sanitary Authority is ready and anxious to do its duty. The district is large and not very easy of access. It is unfortunate that the Port Inspector of Nuisances lives outside the district and holds so many other appointments that he can give but little time to his port duties.

6. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*):—

Foreign.—*Sundsvall*, *Frederikstadt*, Gottenborg, Drammen, Uleaborg, Lulea, Gefle, Laurvig, Miramichi, Richibucto, Bathurst, Dalhousie, Halifax, Quebec, Darien, *Hamburg*.

Coastwise.—*Liverpool*, *Runcorn*, Preston, Mostyn, Belfast, Dublin, Isle of Man, Clyde ports, Silloth, Larne, Wexford.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Foreign.—Imports: timber and explosives.

Exports: slates.

Coastwise.—Inwards: coal, manure, cement.

Outwards: slates.

No rags, emigrants, or transmigrants.

Passengers from Liverpool, Southport, and the Isle of Man during the summer months.

8. *Amount of Shipping Inwards during three years*, 1890–91–92:—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	1	9	1	521	1	521
	Sailing	21	4,399	13	4,027	12	3,747
	Fishing	—	—	—	—	—	—
Total Foreign		22	4,408	14	4,548	13	4,268
Coastwise.	Steamers	786	88,580	705	61,421	642	58,689
	Sailing	665	41,252	620	38,536	615	39,660
	Fishing	—	—	—	—	—	—
Total Coastwise		1,351	129,832	1,325	99,957	1,257	98,349
Vessels running into Penmaenmawr.		- -	- - -	- -	- - -	648	42,984
					Total	1,905	141,333

The above return as to coastwise traffic is stated by the Chief Customs Officer to be approximately correct only. No record is kept of fishing boats which arrive from local waters.

9. *Inland Water Communication*:—

The River Conway is navigable as far as Trefriw. Vessels run up for sulphur ore, and with passengers from Deganwy to Trefriw during the summer months.

There is apparently no supervision exercised over this traffic.

10. *Lines of Railway conveying Goods from Port*:—

London and North-Western Railway.

Penrhyn Railway (private) to the quarries.

11. *Medical Officer of Health*: Robert Langford Jones.

Qualifications:—M.R.C.S., L.S.A. Salary:—Mr. Jones is paid a retaining fee of 2*l*. 2*s*. per annum, without repayment. He also receives an additional fee of 2*s*. for every sailor seen on board the hospital ship, and charges for the medicine supplied. He holds no other sanitary appointment.

Character and efficiency of work done by Medical Officer of Health:—He endeavours to carry out his duties to the best of his ability, but is hampered by the inactivity of the Port Inspector of Nuisances.

12. *Inspector of Nuisances*: William Jones.

Qualifications:—Certificate of Sanitary Institute, Assoc. M. Inst. C.E. Salary, 25*l*. per annum without repayment. Mr. Jones, who resides at Colwyn Bay, also holds the following public offices: Clerk to the Beaumaris Port Sanitary Authority, Clerk, Surveyor, and Inspector of Nuisances to the Colwyn Bay Urban Sanitary Authority.

Character and efficiency of work done by Inspector of Nuisances:—

From the table filled in by the Port Inspector of Nuisances it would appear that he has inspected all vessels from "foreign," but none coming coastwise. Mr. Jones holds so many appointments that it is quite evident he can give but little time to his duties as Port Inspector of Nuisances.

13. *Nuisances :—*

As already noted, the vessels coming coastwise are never dealt with by the Port Inspector of Nuisances, and from the following table it will be observed that as regards vessels coming from foreign, no defects have been found, and no orders have been issued.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	1	—	—
		Sailing	21	—	—
		Fishing	—	—	—
		Total Foreign	22	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—
1891	Foreign	Steamers	1	—	—
		Sailing	13	—	—
		Fishing	—	—	—
		Total Foreign	14	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—
1892	Foreign	Steamers	1	—	—
		Sailing	12	—	—
		Fishing	—	—	—
		Total Foreign	13	—	—
	Coastwise.	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—

14. *Isolation Hospital :—*

The Port Sanitary Authority has provided a floating hospital, an old brig, which is moored near the quay at Bangor, and will be towed to her position when required for patients. She will then be about a mile both from Bangor and Beaumaris. The main portion of the vessel is arranged as one large ward to hold four beds, the bedsteads being of iron. Mattresses, &c. are kept on the ship, and the linen is kept at the house of the caretaker. At the extreme foremost part of the ship a berth has been arranged (above the level of the ward, but partly separated

from it) for the caretaker to sleep in when the ward is occupied. The after portion of the vessel is fitted up as a day and night room for the nurses. The galley, or cooking-place is on deck, as is also a w.c. for the nurses. The ward is fitted with earth-closets, the contents of which would be disinfected and thrown overbroad. Water would have to be carried from Bangor or Beaumaris, and galvanised iron tanks have been provided for its reception. An arrangement has been made with the Nursing Institute at Bangor for the supply of female nurses immediately upon application. The Port Sanitary Authority has purchased a small boat to ply between the hospital and the shore, and at the time of inspection was contemplating the purchase of a larger boat to be used as an ambulance. The main ward is lighted by large hatches, made removable, in order that patients may be lowered from the main deck to the ward. Only every alternate port-hole is made to open, and the cross ventilation of the ward is consequently somewhat defective. The methods of ventilating the main ward by sliding off the hatch is unsatisfactory, as in wet weather the rain would interfere with its removal. The Port Sanitary Authority has spent 800*l.* on this vessel and its fittings.

15. *Disinfecting Apparatus :—*

None provided.

16. *Mortuary :—*

None provided.

17. *Regulations under Section* 125, *Public Health Act*, 1875 *:—*

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 *:—*

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The appointed Boarding Station is at "Friars Roads," but vessels are usually boarded at "The Cross Roads," situate to the north-east of Beaumaris, which is stated to be a more convenient place than the appointed Station. At this Station the Customs' Officers only board foreign-coming vessels. Coasters are only boarded as circumstances permit, and then at any place in the district. No work is done at night, except on an emergency.

The principal places of debarkation are at Deganwy, Conway, Penmaenmawr, Llanfairfechan, Bangor, Menai Bridge, and Beaumaris (coasters on the beach).

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

It has been arranged with the Pilots at Penmon Station that they shall receive a fee of half a crown for giving information to the Port Medical Officer of Health of the arrival of a vessel

coming from "foreign." The Port Medical Officer of Health will then board, with the Customs' Officer. This proceeding is carried out in the daytime, and only applies to vessels coming from "foreign." The Customs only possess one small rowing-boat. Coasters with infectious disease on board may easily escape detection.

The Pilots are licensed by the Bangor and Beaumaris Sub-Commission, and are instructed to "bring to" at the Boarding Station any vessels which have sickness on board.

c. Arrangements for Communication between Officials detaining Vessels, and Medical Officer of Health:—

The Pilots would telegraph to the Port Medical Officer of Health.

The Customs would communicate with the Port Medical Officer of Health by special messenger or by telegram. They practically only act in the daytime.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships:—

The Port Sanitary Authority have purchased a small two-oared rowing-boat. This is too small for work in the open bay, and the Port Medical Officer of Health has had to hire a boat when he has visited vessels coming from "foreign." A steam launch is also available for hire in very rough weather.

e. Mooring Station:—

The mooring station selected is situated at "The Cross Roads," Penmon. At the time of inspection this station had not been fixed officially, but the Port Sanitary Authority stated that it was the best anchorage in the neighbourhood, and to this the Chief Officer of Customs agreed.

f. Inspection of Vessels ("infected" or from "infected ports"):—

The Port Medical Officer of Health stated that he would inspect all vessels, whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected ports"):—

The Port Medical Officer of Health stated that he would examine all persons on board vessels, whether "infected" or from "infected ports."

h. Address Book:—

None kept at time of inspection.

i. Special Isolation Provision for Cholera:—

The hospital ship.

k. Arrangements for Isolation of Persons suspected of suffering from Cholera:—

No provision made other than the hospital ship.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

No provision made.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods* :—

(*a.*) Clothes would be burnt.

(*b.*) Ship fumigated with sulphur. Lime-washing, and corrosive sublimate solution (1 in a 1,000) for woodwork; carbolic acid (1 in 20) for iron vessels.

(*c.*) No means provided for disinfection of goods.

n. Arrangements made as to the Disposal of the Dead :—

None made.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that the water tanks of vessels from infected ports would be emptied and cleansed with solution of permanganate of potassium, and fresh water supplied by the Port Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that the bilges of vessels from infected ports would be pumped out and disinfected with carbolic acid solution (1 in 20) or with corrosive sublimate solution (1 in 1,000).

Final Conference with the Beaumaris Port Sanitary Authority was held on June 7th, 1893, when formal recommendations were made with regard to the following matters :—

1. The provision of a proper Mooring Station.
2. The adoption of the Infectious Disease (Notification) Act, 1889.
3. The necessity for the regular and thorough supervision of all vessels entering the port with the view of securing the abatement of nuisances and unwholesome conditions generally.
4. The steps to be taken in advance to secure, in the event of any English Ports becoming infected by cholera, the medical inspection of vessels entering the district from such ports.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. That the Mooring Station for infected or supposed infected vessels be in the Cross Roads off Penmon as previously appointed by this authority on 5th September 1892.

2. That the Infectious Disease (Notification) Act, 1889, be forthwith adopted.

3. That the question of making a routine, sanitary inspection of all vessels entering this district with a view to the abatement of nuisances, and unwholesome condition generally, be deferred for the present.

4. That the question of medically inspecting and examining vessels and their crews be left to the Medical Officer of Health, as he thinks necessary. [Letter from the Clerk, dated 25th August 1893.]

The Port Medical Officer of Heath inspects all vessels coming "foreign." [Letter from the Clerk, October 1893.]

1. The additional lighting and ventilation of the Floating Hospital satisfactorily carried out.

2. Arrangement made with the authorities at Beaumaris for the use of the mortuary at Gallows Point and for the interment of the dead in their cemetery.

3. Byelaws regulating the removal of infected patients to hospital adopted. [Report of Port Medical Officer of Health, 31st December 1893.]

Regulations under section 125 of the Public Health Act, 1875, approved by the Local Government Board July 20th, 1894.

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Lancaster
Districts.

LANCASTER
Lancaster U
Aldcliffe
Ashton with Stodday
Thurnham
Cockersand Abbey
Cockerham
IV
FLEETWOOD
Fleetwood U
Pilling
Preesall with Hackensall
Stalmine with Staineall
Thornton
Bispham with Norbreck
Out Rawcliffe
Larbeck with Ecclestone
Blackpool U
GARSTANG
FYLDE
LANCASTER
PRESTON
Preston U
Lea Ashton Ingol & Cottam
Newton with Scales
Freckleton
Lytham
St Anne's on the Sea U
Warton
Penwortham
Howick
Hutton
Longton
Hundred End Wks
Little Hecle
North Meols
Hesketh with Becconsall
William is Dale U
PRESTON III
LIVERPOOL
Southport U
Formby
Barkdale U
ORMSKIRK
Little Crosby U
Great Crosby U
Waterloo with Seaton U
Bootle U
WEST DERBY
LIVERPOOL
TOXTETH PARK U
WEST DERBY
Liverpool
Wallasey U
Redstones Ilovlake
Poulton le Moors
Tranmere
Birkenhead
Bebington
Lower Bebington
Brombrough
Toxteth Park U
Garston
Speke
Hale
Halewood
Widnes U
PRESCOT
WARRINGTON
Warrington
Parkside
Gumley
Moore
Lea Green
Latchford
Walton le Moors
Walton Inferior
Rixton
Glazebrook
Irlam
Flixton
Barton upon Irwell
Eccles U
Salford U
Manchester U
Stretford U
BARTON UPON IRWELL
ALTRINGHAM
CHESTER
I
Pc of Air
Redstones
Ilovlake
Wallasey
Poulton
Tranmere
Birkenhead
Bebington
Lower Bebington
Brombrough
Liverpool
Toxteth Park
Garston
Speke
Hale
Halewood
Widnes
Warrington
Parkside
Gumley
Moore
Lea Green
Latchford
Walton le Moors
Walton Inferior
Rixton
Glazebrook
Irlam
Flixton
Barton upon Irwell
Eccles
Salford
Manchester
Stretford
Barton upon Irwell
Irlam
Flixton
Partington
Carrington
Urmston
Stretford
Sale
Ashton upon Mersey
Bowdon
Hale
Altrincham
Dunham Massey
Bollington
Lymm
Thelwall
Warburton
Rixton with Glazebrook
Glazebrook

SECTION XIX.

Customs Ports of Chester, Liverpool, Manchester, Preston, and Fleetwood.

Illustrated in Map XIX.

LIMITS OF CUSTOMS PORTS.

(59.) *Chester.*

The limits of the said Port shall commence at the eastern end of the Old Bridge across the River Dee, in the City of Chester, then continued along the eastern side of the River Dee, in the County of Chester, to the Red Stones at Hoylake, in the said County, and from thence, in a direct line, to the River Voryd or Clwyd River, and so continuing along the seashore and the west side of the River Dee, in the County of Flint, to the western end of the said Old Bridge, and including the whole of the Rivers Dee and Voryd or Clwyd, and the mouths of all rivers, brooks, and watercourses falling therein.

Date of Treasury Warrant, 16th day of December 1847.

The whole of this Customs Port is comprised within the boundaries of the Chester Port Sanitary District, a report with regard to which will be found at page 597.

(60.) *Liverpool.*

The limits of the said Port, on and after the 1st day of January 1894, shall commence at the termination of the Port of Chester, namely, at the Red Stones in Hoylake, on the Point of Wirral, and continue up the River Mersey on the Cheshire shore thereof to the west side of the entrance to the Manchester Ship Canal, at Eastham, thence in an easterly direction across the said entrance, and along the Cheshire shore of the river to Ince Ferry, the western termination on the Cheshire shore of the Port of Manchester, thence crossing the said River Mersey in a supposed straight line to Dungeon Point, being the western termination on the Lancashire shore of the said Port of Manchester, and continue along the coast of the County of Lancashire, to the southern boundary of the Port of Preston, namely, a gutter or run of water commonly called the Hundred End Water, on the south of the River Ribble, and the said port shall include all rivers, bays, channels, roads, bars, strands, harbours, havens, streams, and creeks (except the said Manchester Ship Canal), within the said limits contained, and shall extend seaward to a distance of three miles from low-water mark along the coast within the aforesaid limits.

Date of Treasury Warrant, 18th day of December 1893.

The whole of this Customs Port is comprised within the boundaries of the Liverpool Port Sanitary District, as to which see page 604.

(61.) *Manchester.*

The limits of the said port shall commence at the eastern termination of the Port of Liverpool, that is to say, at an imaginary line across the River Mersey from Dungeon Point on the Lancashire shore to Ince Ferry on the Cheshire shore, and shall include the River Mersey above the said line, and the River Irwell, so far as the same are navigable, and the

River Weaver to Frodsham Bridge; and shall also include the Manchester Ship Canal from the entrance thereof at Eastham, in the County of Chester (where it touches the Port of Liverpool) to Hunt's Bank, in the city and parish of Manchester, with all channels, havens, streams, creeks, cuts, and docks within the limits aforesaid.

Date of Treasury Warrant, 18th day of December 1893.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary Districts of Runcorn, Lymm, Barton-upon-Irwell, Eccles, Stretford, Salford, Manchester, Warrington, and Widnes, and certain Riparian Parishes of the Rural Sanitary Districts of Wirral, Chester, Runcorn, Warrington, Altringham, Barton-upon-Irwell, and Prescot. A special report with respect to this Customs Port will be found in Addendum A. to this report, at page 657.

(62.) *Preston.*

The limits of the said Port of Preston shall commence at the Hundred End Water, two miles westward of Hesketh, thence running eastwardly over the River Douglas, and along the south side of the River Ribble, and the Ribble Diversion, to the farthest point to which the tide flows, thence crossing the said River Ribble, and proceeding in a westwardly direction along the north side of the said River and along the sea coast to the gutter or run of water called Black Pool, which falls into the sea near the entrance to the north channel of the Ribble, and including the Rivers Douglas and Ribble, and shall *

Date of Treasury Warrant, 19th day of October, 1888.

The whole of this Customs Port, with the exception of a portion of the Blackpool Urban Riparian Sanitary District, is comprised within the boundaries of the Preston Port Sanitary District, and a report with respect to which will be found at page 612.

(63.) *Fleetwood.*

The limits of the said Port of Fleetwood shall commence at the point of land nearest to the north-east side of Fluke Hall, in the County of Lancaster, being the south-western boundary of the Port of Lancaster, and shall extend thence three miles and six-tenths of a mile in a north-west-by-north direction to a point in the sea, at present indicated by the outermost buoy at the entrance to the River Lune, known as No. 1 Lune Buoy, thence to the westernmost extremity of Danger Patch, thence to 12 fathoms water at a point due west of a gutter or run of water called Black Pool, which falls into the sea, near the entrance to the north channel of the Ribble, and thence to the said gutter or run of water called Black Pool, and shall include the River Wyre, and*

Date of Treasury Warrant, 19th day of October 1888.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Fleetwood, the Urban Riparian Sanitary Districts of Blackpool (part of) and Fleetwood (part of), and certain Riparian Parishes of the Rural Sanitary District of The Fylde. The shipping trade is practically confined to the Fleetwood Port Sanitary District, and a report as to this will be found at page 618.

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* See footnote, page 78, *ante*.

Chester Port Sanitary Authority.

[Chester Customs Port.]

Inspector: Dr. R. J. Reece. *Date of Inspection:* May 15th, 1893.

Date of Order *permanently* constituting Port Sanitary District: 28th March, 1888.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board termed "The "Chester Port Sanitary Authority," and consists of 12 members representing the constituent Authorities as follows:—

Urban Sanitary Authority for City of Chester, three members.

Urban Sanitary Authority for Borough of Flint, two members

Urban Sanitary Authority for the Improvement Act District of Rhyl, one member.

Rural Sanitary Authority of Hawarden, one member.

Rural Sanitary Authority of Holywell, five members.

It exercises port functions in water abutting upon the Urban Sanitary district of Rhyl, Holywell, Flint, Chester and Weston and upon the Rural Sanitary Districts of St. Asaph, Holywell, Hawarden, and Wirral.

2. *Limits of Jurisdiction:—*

The whole of the Customs Port of Chester. The limits of the jurisdiction of this Port according to Treasury warrant dated 16th December, 1847, are as follows:—

"The limits of the said Port shall commence at the eastern end of the Old Bridge across the River Dee, in the City of Chester, then continued along the eastern side of the River Dee, in the County of Chester, to the Red Stones at Hoylake in the said County and from thence in a direct line to the River Voryd or Clwyd River, and so continuing along the seashore and the west side of the River Dee, in the County of Flint, to the western end of the Old Bridge and including the whole of the Rivers Dee and Voryd or Clwyd and the mouths of all Rivers, brooks and watercourses falling therein."

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Rhyl Urban Sanitary District.

Holywell Urban Sanitary District.

Flint Urban Sanitary District.

Chester Urban Sanitary District.

Weston Urban Sanitary District.

St. Asaph Rural Sanitary District. Parishes:—Rhuddlan, Dyserth and Meliden.

Holywell Rural Sanitary District. Parishes:—Llanasa, Whitford, Holywell and Northop.

Hawarden Rural Sanitary District. Parishes:—Saltney and Hawarden.

Wirral Rural Sanitary District. Parishes:—Puddington, Burton, Ness, Gayton, Heswall with Oldfield, Thurstaston, Caldy, West Kirkby and Little Meolse.

4. *Apportionment of Expenses :—*

The expenditure is apportioned in accordance with the ollowing proportions :—

Urban Sanitary Authority of the City of Chester, five twentieths.
Urban Sanitary Authority of Flint, three twentieths.
Urban Sanitary Authority of Rhyl, one twentieth.
Rural Sanitary Authority of Hawarden, one twentieth.
Rural Sanitary Authority of Holywell, ten twentieths.

5. *General Character and Efficiency of Administration :—*

The general character of the administration is apparently satisfactory, but could be rendered more efficient as regards sanitary inspection of shipping.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

FOREIGN.—*Carthagena*, *Krogero*, *Porsgrund*, Frederikstadt, Sundswall, Richibucto, Brevig, Dunkirk, Riga.

COASTWISE.—*Liverpool*, *Millom*, *Barrow*, Belfast, Dublin, Llandulas, Douglas, Newry, Conway, Bangor.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—Imports. Iron ore, timber.
Exports. Coal, salt, fire-bricks, earthenware.

COASTWISE.—Inwards. Iron ore.
Outwards. Coal and fire-bricks, alkalies, earthenware.

No rags, immigrants, transmigrants or passengers.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	18	14,501	15	12,209	18	15,100
Foreign { Sailing	40	7,548	41	7,815	37	8,499
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	58	22,049	56	20,024	55	23,599
Coastwise { Steamers	619	32,985	735	37,651	675	38,937
Coastwise { Sailing	2,028	135,397	1,866	121,081	1,370	80,909
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	2,647	168,382	2,601	158,732	2,045	119,846

9. *Inland Water Communication :—*

There is no trade above Chester on the Dee, nor above the Railway Bridge at Rhyl on the Clwyd River. Some vessels, local "flats" or "barges" go up to Rhuddlan.

At Chester the River Dee communicates by locks with the Ellesmere Canal.

10. *Lines of Railway conveying Goods from Port:—*

The London and North-Western Railway all along the Coast.
The Great Western Railway to Saltney and Chester.
Cheshire Lines.—Great Western Railway, Midland, Railway and the Manchester Sheffield and Lincolnshire Railway.
The Wrexham, Mold and Connah's Quay.

11. *Medical Officer of Health:* J. Humphrey Williams.

Qualifications:—M.D. Edin. Salary, 25*l.* per annum with repayment. Dr. Williams also holds the appointment of Medical Officer of Health for the Flint Urban Sanitary District.
Character and efficiency of work done by Medical Officer of Health:—
He appears to do as much Port work as is to be expected for the salary paid.

12. *Inspector of Nuisances:* John Dawson.

No sanitary certificate. Salary, 30*l.* per annum with repayment. He also acts as Harbour Master at Mostyn where he lives.
Character and efficiency of work done by Inspector of Nuisances:—
He makes periodical tours of inspection throughout his district but at long intervals of time and according to his report has not served a notice of nuisance abatement during the three years 1890–91–92.

13. *Nuisances:—*

It will be seen from the table below that for the last 3 years the Inspector of Nuisances has apparently inspected more ships from "Foreign," than are given in the Custom House Returns. As regards coasting vessels, the report shows that he has inspected between $\frac{1}{3}$ to $\frac{1}{2}$ of the number of vessels entering the Port Sanitary District. In 1890, 695: in 1891, 969: in 1892, 829: nevertheless in all these vessels none are reported defective and no orders have been issued.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	21	—	—
		Sailing	52	—	—
		Fishing	—	—	—
		Total Foreign	73	—	—
	Coastwise.	Steamers	48	—	—
		Sailing	647	—	—
		Fishing	—	—	—
		Total Coastwise	695	—	—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Num ber of Orders issued.
1891	Foreign	Steamers	16	—	—
		Sailing	40	—	—
		Fishing	—	—	—
		Total Foreign	56	—	—
	Coast-wise.	Steamers	65	—	—
		Sailing	904	—	—
		Fishing	—	—	—
		Total Coastwise	969	—	—
1892	Foreign	Steamers	17	—	—
		Sailing	46	—	—
		Fishing	—	—	—
		Total Foreign	63	—	—
	Coast-wise.	Steamers	57	—	—
		Sailing	772	—	—
		Fishing		—	—
		Total Coastwise	829	—	—

14. *Isolation Hospital :—*

The Port Sanitary Authority has a hospital at Mostyn. It was built about 10 years ago by the Holywell Rural Sanitary Authority, and was purchased by the Chester Port Sanitary Authority six years since. The hospital was originally built for the reception of cholera sick persons from ships running from foreign to bring ore to the Iron Works. The hospital is situate on a peninsula stretching out into the sea. The peninsula is formed of "slag" from the Iron Works. The hospital is well isolated, but a line of rails used for conveying slag to the extremity of the peninsula runs within 16 feet of the building. This line of rails has not been used recently. The hospital would accommodate four patients suffering from the same disease, but it would be quite unfitted for more than that number. Patients could be received at a few hours' notice. All material required for the hospital is kept in it, except beds and bedding, which are kept for the sake of "airing," &c. at the Holywell Workhouse, four to five miles away. Patients could be brought within a few feet of the hospital from half-flood to half-ebb, by boat. There is room for extending accommodation. Water is laid on from Mostyn town supply. Excrement would be thoroughly disinfected and then disposed of in a pervious cesspool prepared in the slag. There is no laundry. The Port Sanitary Authority pays a small fee to the Chester Infirmary in order that nurses may be retained for use at the Port Hospital at Mostyn if required. There was local opposition to the use of the hospital in 1892 when cholera threatened.

15. *Disinfecting Apparatus :—*

None provided.

16. *Mortuary :—*

There is a small mortuary near the hospital at Mostyn.
This consists of a small wooden building with accommodation for three bodies.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease (Notification) Act*, 1889 :—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

The Boarding Station at Mostyn is defined as "That part of the "Mostyn Roads lying a little to the eastward of Mostyn Gut "in the River Dee"; and the Boarding Station at Rhyl as that part of the "Rhyl Roadstead off the Parade between the "Pier and the east bank of the River Clwyd."
The principal places of debarkation are Rhyl, Mostyn, Flint, Connah's Quay, Chester.
Coasters are only boarded occasionally, and then at any part of the district.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguards, and by Pilots :—

The Customs would detain vessels at "Mostyn Deep."
The Chief Officer of Coastguard—who since February 1893 has held a "quarantine certificate"—would detain an infected vessel pending inspection by Port Medical Officer of Health.
There is no compulsory pilotage at Chester, though owing to the difficult navigation most vessels carry a pilot. Pilots are licensed by the Dee Conservancy Board and are instructed by the Customs to "bring to" vessels with sickness on board at one or other of the Boarding Stations.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health :—

The Customs or Coastguard would by day telegraph to the Port Medical Officer of Health, and by night send special messenger by rail or road (driving 8 miles).

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Sanitary Authority has made no provision.
Conveyance would be by rail or road (driving, 8 miles). Then to the vessel by boat belonging to the Ironworks Company.

e. Mooring Station :—

The Mooring Station is situate at Mostyn, and is defined as follows:—"That part of the Mostyn Roads lying a little to "the eastward of Mostyn Gut in the River Dee," generally known as "Mostyn Deeps."
This station is apparently satisfactory.

. *Inspection of Vessels* ("infected" or from "infected port") :—

The Port Medical Officer of Health stated that he would inspect all vessels whether "infected" or from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected ports") :—

The Port Medical Officer of Health stated that he would examine all persons on board vessels whether "infected" or from "infected ports."

h. Address Book :—

An address book would be kept.

i. Special Isolation Provision for Cholera :—

At the hospital at Mostyn.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

At the hospital at Mostyn.

l. Means provided for Transfer of infected Persons from Ship to Hospital :—

In a boat belonging to the Iron Works Company.
The Port Inspector of Nuisances is the harbour master for the Iron Works Company, and would thus have the use of the boat. It is, however, too small to be serviceable.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods* :—

The Port Medical Officer of Health stated he would (*a*) cause infected clothes to be burnt; (*b*) disinfect the ship with sulphur fumigation, lime-washing, and carbolic acid solution 1 in 20; (*c*) no arrangements made for disinfecting goods.

n. Arrangements made as to the Disposal of the Dead :—

None made.

o. Action as to Water Supply of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that he would have the water tanks of vessels from infected ports pumped out and cleansed, and that fresh water would be supplied at the expense of the Sanitary Authority.

p. Action as to Bilges of Vessels from Infected Ports :—

The Port Medical Officer of Health stated that he would have all bilges of vessels from infected ports pumped out.

Final Conference with the Chester Port Sanitary Authority was held on June 10th, 1893, when formal recommendations were made with regard to the following matters :—

1. The adoption of the Infectious Disease (Notification) Act, 1889.
2. The provision of an efficient disinfecting apparatus.
3. The provision of suitable ambulance accommodation.

4. The necessity for the regular and thorough supervision of vessels entering the district with a view to the abatement of nuisances and unwholesome conditions generally.
5. The steps to be taken beforehand to secure in the event of cholera invading British Ports, the medical inspection of all vessels whether entering the port from "coastwise" or from "foreign."

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

Resolutions passed by the Port Sanitary Authority to adopt regulations under section 125 Public Health Act, 1875; to adopt the Infectious Disease (Notification) Act, 1889; to procure an ambulance stretcher; and in the event of an outbreak of cholera in the United Kingdom, to institute medical inspection of all coasting vessels. [Letter from the Clerk, dated 6th July 1893.]

The Infectious Disease (Notification) Act, 1889, adopted by the Port Sanitary Authority on 18th October 1893, the Act to come into force on 1st March 1894. [Letter from the Clerk, dated 25th January 1894.]

Regulations under section 125 of the Public Health Act, 1875, approved by the Local Government Board October 26th, 1894.

"The inspection of vessels entering the Ports has been systema-
" tically carried out both by myself and the inspector, and
" the points which receive particular attention are the
" general sanitary state of the vessel, the supply and storage of
" water, cleanliness, and the general state of the crews' quarters
" with regard to ventilation, space and protection from
" weather." [Annual Report of Port Medical Officer of Health, 1894.]

Liverpool Port Sanitary District.

[Liverpool Customs Port.]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* June 28th, 1893.

Date of Order *permanently* constituting Port Sanitary District:—June 11th, 1874, as amended by Orders of May 19th, 1875, and November 28th, 1879.*

1. *Constitution of Port Sanitary Authority:—*

"The Mayor, Aldermen, and Citizens of the City of Liverpool, acting by the Council."

The Port Sanitary Authority exercises port functions in waters abutting upon the Birkenhead, Bootle, Southport, Birkdale, Bromborough, Garston, Little Crosby, Liverpool, Great Crosby, Lower Bebington, Toxteth Park, Wallasey and Waterloo with Seaforth Urban Sanitary Districts, and the Ormskirk, Prescot, Chester, and Wirral Rural Sanitary Districts.

2. *Limits of Jurisdiction:—*

The whole of the Port of Liverpool.

The limits of the Port of Liverpool are defined by a Treasury Warrant dated December 18th, 1893, as follows:—The limits of the said Port, on and after the 1st day of January 1894, shall commence at the termination of the Port of Chester, namely, at the Red Stones in Hoylake, on the Point of Wirral, and continue up the River Mersey on the Cheshire shore thereof to the west side of the entrance to the Manchester Ship Canal, at Eastham, thence in an easterly direction across the said entrance, and along the Cheshire shore of the river to Ince Ferry, the western termination on the Cheshire shore of the Port of Manchester, thence crossing the said River Mersey in a supposed straight line to Dungeon Point, being the western termination on the Lancashire shore of the said Port of Manchester, and continue along the coast of the county of Lancashire, to the southern boundary of the Port of Preston, namely, a gutter or run of water commonly called the Hundred End Water, on the south side of the River Ribble, and the said Port shall include all rivers, bays, channels, roads, bars, strands, harbours, havens, streams, and creeks (except the said Manchester Ship Canal), within the said limits contained, and shall extend seaward to a distance of three miles from low-water mark along the coast within the aforesaid limits.

The limits of the Port District are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Liverpool, Birkenhead, Bootle, Southport, Birkdale, Bromborough, Garston, Little Crosby, Great Crosby, Lower Bebington, Toxteth Park, Wallasey and Waterloo with Seaforth Urban Sanitary Districts.

Ormskirk Rural Sanitary District. Parish:—

Formby and North Meols (part of).

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* See page , as to more recent Order issued since this Report was written.

Prescot Rural Sanitary District. Parishes:—
Speke and Hale.
Chester Rural Sanitary District. Parishes:—
Great Stanney, Stanlow and Ince.
Wirral Rural Sanitary District. Parishes:—
Little Meolse, Hoose, Great Meolse. Eastham, Hooton, Netherpool, and Whitby.

4. *Apportionment of Expenses:—**

Liverpool Urban Sanitary Authority -	82·50
Birkenhead Urban Sanitary Authority -	9·20†
Bootle Urban Sanitary Authority - -	2·30
Garston Urban Sanitary Authority - -	1·60
Lower Bebington Urban Sanitary Authority	·50
Toxteth Park Urban Sanitary Authority -	1·40
Wallasey Urban Sanitary Authority -	2·50

5. *General Character and Efficiency of Administration:—*

This Port Sanitary Authority has made great progress since Dr. Barry's inspection in September 1892. With a view to carrying out Dr. Barry's advice it has permanently appointed an Assistant Port Medical Officer of Health, and two additional Port Inspectors of Nuisances, all three to devote their whole time to Port Sanitary duties; it has provided a temporary office near the "Landing Stage" for the use of its officers, and a permanent office is about to be provided; and it was, at the time of inspection, remedying some of the defects at the Cholera Hospital. Quite recently the Authority has decided to appoint a second Assistant Port Medical Officer of Health in order that all vessels from infected ports may be medically inspected in the river by night as well as by day.

The general character of the Sanitary Administration at this Port may now be regarded as satisfactory.

6. *Ports from whence Ships Arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*):—

Foreign.—Practically, vessels arrive from all parts of the world. The chief trade, however, is with *North and South America*, *The Baltic*, *Hamburg*, *The Mediterranean*, *India*, *China*, and France [Havre, Rouen, Marseilles, Lorient occasionally].

Coastwise.—*Cardiff*, *Swansea*, *Plymouth*, *Southampton*, *London*, *Dublin*, *Belfast*, *Drogheda*, *Glasgow*, *Dundee*, and occasionally from all British ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

Foreign.—*Imports.* Cotton from America, India and Egypt. Fresh and preserved meat from America and Australia. Sugar from the West Indies and Hamburg. Fruit from Canada,

* See page 611, as to more recent Order issued since this Report was written.
† This includes the contributions formerly paid by the Tranmere and Higher Bebington Urban Sanitary Authorities whose districts are now included in Birkenhead Urban Sanitary District.

Australia, Spain, and a little from Hamburg. Dried fruit from Spain and Greece. Spirits from France, Hamburg and Russia. A very large passenger trade with America. Only casual passengers from European ports. A large number of transmigrants from Germany, Russia and Scandinavia come across England from the East Coast Ports en route for America. At the date of inspection the German and Russian transmigrant traffic had almost stopped. In ordinary times, too, there is a considerable rag trade with Hamburg, Rotterdam, and Havre. This also had for the time ceased.

Exports.—Manufactured goods, spirits and salt.

Coastwise.—*Imports.*—General cargoes; regular passenger trade with Belfast, Dublin, Isle of Man, Glasgow and London. Large excursion traffic with Welsh ports.

Exports.—Manufactured goods, salt and chemicals.

8. *Amount of Shipping Inwards during three years*, 1890–91–92:—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign—Steamers	3,683	5,155,328	3,646	5,316,636	3,664	5,586,173
Foreign—Sailing	1,188	827,191	951	698,813	895	645,952
Foreign—Fishing			See below.			
Total Foreign	4,871	5,982,519	4,597	6,015,449	4,559	6,232,125
Coastwise—Steamers	9,859	2,261,170	10,141	2,396,607	10,045	2,342,914
Coastwise—Sailing	3,203	364,857	3,099	359,805	2,737	313,325
Coastwise—Fishing			See below.			
Total Coastwise	13,062	2,626,027	13,240	2,756,412	12,782	2,656,239

The fishing trade at this port is almost purely of a local nature, as most of the fishermen only go a few miles out to sea. There are some steam trawlers who visit, in fine weather, the coasts of Ireland and the Isle of Man. No record is kept of the arrivals and sailings of fishing boats at this port, but the following is the number registered in Liverpool for each of the three years given, viz.:—

Year.	No.
1890	279
1891	267
1892	268

Practically there is no trade between Liverpool and foreign countries as far as fishing boats are concerned. Only one or two foreign fishing boats seem to have arrived at this port within the last three years.

9. *Inland Water Communication:—*

Vessels go up the Mersey to Runcorn, Saltport, Warrington and Widnes. All vessels from foreign going to these ports are interrogated by the Customs Officers at Liverpool. There is also inland water communication by the Leeds and Liverpool

and Shropshire Union Canals. Canal boats are said to be regularly inspected by the Inspector of Canal Boats.

The Manchester Ship Canal, when opened, will of course afford a very important inland water communication.

10. *Lines of Railway conveying Goods from Port :—*

London and North Western Railway ; Lancashire and Yorkshire Railway; Cheshire Lines Committee.

11. *Medical Officer of Health :* Edward William Hope.

Qualifications :—M.D., C.M., and D.Sc. (Public Health) Edin., L.R.C.P. Lond. Salary, 100*l.* per annum. Dr. Hope also holds the office of Medical Officer of Health for the City of Liverpool.

Permanent Assistant Port Medical Officer of Health :—S. G. Moore, M.B., Ch.B. Vict. Univ. Salary, 250*l.* per annum. Dr. Moore devotes his whole time to port sanitary duties.

Subsequently to inspector's visit Dr. N. E. Roberts was appointed Second Assistant Port Medical Officer of Health (temporary).

Character and efficiency of work done by Medical Officers of Health :—Highly efficient.

12. *Inspector of Nuisances :* J. J. Brown.

Qualifications :—Formerly a master mariner ; no sanitary certificate. Salary, 200*l.* per annum.

Assistant Port Inspectors of Nuisances :—J. Nicholson and J. B. Roberts. Both these inspectors are permanently appointed to devote their whole time to port work, at salaries of 120*l.* per annum. Both have previously been employed on board ship.

Character and efficiency of work done by Inspectors of Nuisances :—The work of ship inspection would seem to have been very inadequately performed in this port in the past. By the aid of the two additional Port Inspectors of Nuisances, who have been recently appointed, it will no doubt in the future be carried out in a far more efficient and satisfactory manner.

13. *Nuisances :—*

Nuisances are apparently now being efficiently dealt with.

Inspection of Shipping in 1890–91–92.

	Class of Vessels.	Number inspected.	Number reported to be defective.	Number of Orders issued.
1890	Foreign - - - -	3,372	270	—
	Coastwise - - - -			
1891	Foreign - - - -	3,662	368	—
	Coastwise - - - -			
1892	Foreign - - - -	3,867	468	—
	Coastwise - - - -			

14. *Isolation Hospital :—*

The Port Sanitary Authority possesses a special cholera hospital for 24 patients at New Ferry, on the Cheshire bank of the Mersey. It was erected in 1876, and contains two wards (for 12 patients each), separated from one another by a nurse's duty room, bathroom, and surgery. The walls are of corrugated iron, and the wards are warmed by hot-water pipes. Excrement disposal by pail-closets. Slop drainage, which was being relaid at time of the Inspector's visit, will discharge into the Mersey. Water supply from West Cheshire Company. There are also on the site a lodge for caretaker and four nurses, a kitchen block, and a mortuary. A laundry was in process of erection at the time of inspection behind and adjoining the kitchen block, but there will be no direct communication between the two. There is ample room for hospital extension. The hospital was about to be put in readiness to receive patients at the time of the Inspector's visit. Owing to the shallow and muddy state of the river-bed at this spot patients could only be landed for about three hours at each tide, viz., an hour and a half before and after high water. If necessary, however, patients could probably be landed at a ferry pier about half a mile distant, and conveyed thence to hospital in an ambulance by road. The road approach to the hospital is said to have been improved since Dr. Barry's inspection in 1892, but it is still in a very unsatisfactory state for a part of its course. In the event of patients being landed from the river opposite the hospital, they would be carried on a stretcher up some wooden steps erected for the purpose. These steps being numerous and at a steep gradient, a resting platform is being constructed about half-way up as suggested by Dr. Barry.

The hospital above described is reserved for cholera purposes. Ship-borne cases of other infectious diseases are isolated at one or other of three City fever hospitals.

51. *Disinfecting Apparatus :—*

There is no disinfecting apparatus at the Port Sanitary Authority's Cholera Hospital.

The Urban Sanitary Authority possesses a Washington Lyon's apparatus, a Bradford's steam apparatus, and a Ransom's gas apparatus. These are situate at the several urban hospitals in different parts of the city, and would not be used for cholera purposes by the Port Sanitary Authority.

The Urban Sanitary Authority also possesses two special disinfecting stations. One is fitted with a dry-heat apparatus; the other, which is conveniently situated for port purposes, was being fitted, at the date of inspection, with a Washington Lyon's apparatus.

Cholera-infected articles would, however, be burnt.

16. *Mortuary :—*

There is a corrugated iron mortuary at the cholera hospital above described. At the time of the inspector's visit the floor of this mortuary had just been re-cemented, and two state tables were about to be put in position, their brick supports being already built. This mortuary is only about six feet from the boundary wall of the site.

17. *Regulations under Section* 125 *Public Health Act*, 1875 :—

None made at date of inspection.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

This Act was adopted on January 8th, 1890, and came into force upon September 1st, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

Except for vessels subject to quarantine, for which a special boarding station has been fixed, the preliminary interrogation by the Customs takes place in ordinary times at the entrances to the several docks. At the time of inspection, however, in view of the existing danger of Cholera, Officers of Customs attended each tide in their launch, and interrogated vessels from foreign ports as they came up the river. The places of debarkation in in the district are the numerous Liverpool docks, and the docks at Birkenhead and Garston, at all of which there are Customs Officers stationed. Vessels from foreign are dealt with by the Customs in the same way at night as during the day. Coasters are only boarded as time allows.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

"Infected" or "suspected vessels" would be detained by the Customs Officers at the quarantine boarding station for 12 hours, if necessary, for examination by the Port Medical Officer of Health.

Pilots are licensed by the Mersey Dock and Harbour Board. They do not appear to have received any special instructions with regard to cholera. Almost all vessels take pilots on board, but a few come up without, the masters having pilots' certificates.

c. Arrangement for Communication between Officials detaining Vessels and Medical Officer of Health :—

Special messenger if necessary.

During danger of cholera, however, one of the Assistant Port Medical Officers of Health accompanies the Customs tug on each tide.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority possesses no boat. Its officers are, however, given passage on the Customs launch.

e. Mooring Station :—

Mooring station fixed at the "Sloyne." This is in the Port Sanitary District, and has been approved by the Collector of Customs.

f. Inspection of Vessels ("infected" or from "infected port") :—

All vessels reported as infected or suspected would be at once visited by the Port Medical Officer of Health or Assistant Port

Medical Officer of Health. As regards vessels from infected ports the Assistant Port Medical Officer of Health was, at the time of the Inspector's visit, meeting and inspecting as many as time allowed, using the Customs launch for the purpose. In order that all such vessels might be medically inspected in the river, the Port Sanitary Authority subsequently appointed an additional (temporary) Assistant Port Medical Officer of Health.*

g. Examination of Persons in Vessels ("infected" or from "infected port"):—

The ships' articles are inspected, and all hands on board mustered and examined.

h. Address Book:—

A special address book will be kept.

i. Special Isolation Provision for Cholera:—

Iron hospital, at New Ferry, for 24 patients. (See 14 above.)

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

Such persons would be detained either on the ship on which they arrived, or in the cholera hospital.

l. Means provided for transfer of Infected Persons from Ship to Hospital:—

No special means provided, reliance being placed upon ability to use the ships' boats, or to hire a tug for the occasion.

No stretcher actually in readiness at the cholera hospital, but one will, it is said, be provided. One of the Urban Sanitary Authority's horse ambulances could be sent across the river in the ferry at short notice, if it should be necessary, to convey patients from "New Ferry" Pier by road.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c.) Goods:—

(*a.*) Infected clothing would be burnt.
(*b.*) Sulphur fumigation and carbolic acid solution.
(*c.*) None.

n. Arrangements made for the Disposal of the Dead:—

The bodies of ship-borne persons who died of cholera would be properly shotted and sent out to sea for burial.

o. Action as to Water Supply of Vessels from Infected Ports:—

Water will be pumped out before entering the dock; tanks cleansed with permanganate of potash solution, and fresh water supplied.

p. Action as to Bilges of Vessels from Infected Ports:—

Bilges will be pumped out before entering the dock and cleansed with carbolic acid solution.

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* During the autumn of 1894 a temporary Assistant Medical Officer of Health was again appointed in order to ensure that the medical inspection of *all* vessels from "infected" ports was carried out. [Annual Report of Port Medical Officer of Health for 1894.]

Final Conference with the Liverpool Port Sanitary Authority was held on July 14th, 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of a steam launch for the conveyance of the inspecting officers of the Authority, and for the transport from the mooring station to the hospital of persons suffering from infectious disease.
2. The steps to be taken in advance to secure, in the event of British ports becoming infected by cholera, the medical inspection by night, as well as by day, of all coastwise vessels arriving at the Port.

Action taken by the Port Sanitary Authority since Inspection.

During the period of the year 1893, when cholera existed at certain British ports, vessels arriving in the Liverpool Port Sanitary District, whether by day or by night, from such ports, were subjected to systematic medical inspection as in the case of vessels arriving from foreign infected ports. [Special Report of the Port Medical Officer of Health, dated September 21st, 1893.]

In his annual report for the year 1893, the Port Medical Officer of Health reports that the hospital at New Ferry is fully equipped, and that the offices of the Port Sanitary Authority at the pierhead, which will provide appropriate waiting and reception rooms for rejected emigrants, and suitable lavatory accommodation, are nearly completed.

Regulations under section 125 of the Public Health Act of 1875 have been adopted by this Port Sanitary Authority, and were approved by the Local Government Board on August 17th, 1894.

[Since the above report was written, a fresh order, dated October 31st, 1893, has been issued by the Local Government Board, permanently constituting the mayor, aldermen, and citizens of the city of Liverpool, the Port Sanitary Authority for the whole of the Customs Port of Liverpool, including the place or places, &c.*]

By this order, the expenses incurred by the Port Sanitary Authority are apportioned among the constituent Riparian Authorities as under:—

The Urban Sanitary Authority for the city of Liverpool	72·6 per centum.
The Urban Sanitary Authority for the borough of Birkenhead	11·2 „
The Urban Sanitary Authority for the borough of Bootle	6·3 „
The Urban Sanitary Authority for the Local Government District of Bromborough	0·2 „
The Urban Sanitary Authority for the Local Government District of Garston	1·8 „
The Urban Sanitary Authority for the Local Government District of Lower Bebington	0·5 „
The Urban Sanitary Authority for the Local Government District of Toxteth Park	3·3 „
The Urban Sanitary Authority for the Local Government District of Wallasey	4·1 „

* See footnote, page 89, *ante*.

Preston Port Sanitary District.

[Preston Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 27th, 1893.

Date of Order *permanently* constituting Port Sanitary District: June 5th, 1888.

1. *Constitution of Port Sanitary Authority :—*

The Port Sanitary Authority is "the Mayor, Aldermen, and "Burgesses of the Borough of Preston, acting through the "Council."

The Port Sanitary Authority discharges port functions in waters abutting upon the Preston, Lytham, St. Anne's and Southport Urban Sanitary Districts, and the Preston, Fylde, and Ormskirk Rural Sanitary Districts.

2. *Limits of Jurisdiction :—*

"The whole of the Customs Port of Preston, except so much of the said Port as is included within the Borough of Blackpool, or lies between the northern boundary of the said port, and a line drawn due west from the seaward end of the southern boundary of the said Borough to the boundary of the said port; together with the waters,"* &c. &c.

The limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District :—*

Preston, Lytham, and St. Anne's-on-Sea, Urban Sanitary Districts. Preston Rural Sanitary District. Townships:—Lea Ashton, Penwortham, Howick, Hutton, Longton, and Little Hoole. The Fylde Rural Sanitary District. Townships:—Clifton-with-Salwick, Newton-with-Scales, Freckleton, and Warton. Ormskirk Rural Sanitary District. Townships:—Hesketh-with-Becconsall, and North Meols.

4. *Apportionment of Expenses :—*

The expenses are wholly borne by the Preston Urban Sanitary Authority.

5. *General Character and Efficiency of Administration :—*

This Port Sanitary Authority would seem to have done little in the past, but with the increase of shipping to the district the need for increased activity appears to be recognised, and in erecting an isolation hospital, the Authority has acted wisely.

6. *Ports from whence Ships arrive :—*

(Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are indicated by *italics*) :—

FOREIGN.—*Canada and Newfoundland*, Norway, Jersey and Guernsey, the Baltic occasionally, Mediterranean occasionally (Morocco coast).

Increased foreign trade expected with Hamburg, the Baltic, and Canada.

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* See footnote, page 89, *ante*.

COASTWISE.—*Liverpool, Glasgow, Londonderry, Dublin, Drogheda*, Cornish ports, London, Plymouth, Bridgewater, Ardrossan, and Silloth.

7. *Character of Trade :—*

(Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—*Imports.*—Timber, corn, potatoes, and wood pulp.

Exports.—Tar, pitch, spent oxide from gasworks, and coal.

COASTWISE.—*Imports.*—Pig-iron, corn, oatmeal, bog ore, general goods, china clay, whiting, coal (cannel).

Exports.—Coal (bituminous), paper, machinery, general merchandise.

At present no rag trade or passenger trade with foreign. Rag trade expected with Hamburg in 1893. No immigrants, &c.

Occasional passenger steamers in the summer to the Isle of Man and Blackpool, Southport, and Llandudno.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	1	201	2	362	12	3,483
	Sailing	4	514	4	443	10	4,190
	Fishing	—	—	—	—	—	—
	Total Foreign	5	715	6	805	22	7,673
Coastwise.	Steamers	216	19,100	212	15,213	320	28,327
	Sailing						
	Fishing*	—	—	—	—	—	—
	Total Coastwise	216	19,100	212	15,213	320	28,327

* In 1892 there were 49 registered fishing boats at Preston. They are quite small boats and only fish in the Port, shrimping and fluke catching. They are half-decked vessels.

9. *Inland Water Communication :—*

None, except the River Douglas which joins the Leeds and Liverpool Canal. At present there is no trade up this river, but it is thought likely that with increased trade in the Port it may become an important channel for transport of goods from shipboard. At present a little coal, stone, and bricks come down the Douglas *en route* for Freckleton. Nothing goes up that river. It is not navigable for anything over 4 feet draught.

10. *Lines of Railway conveying Goods from Port :—*

The Lancashire and Yorkshire, London and North-Western, West Lancashire, and Midland Railways.

11. *Medical Officer of Health :* Henry Oldfield Pilkington.

Qualifications :—M.R.C.S. Eng., L.S.A. Salary, 10*l.* per annum, with repayment.

Mr. Pilkington also acts as Medical Officer of Health to the Preston Urban Sanitary District.

Character and efficiency of work done by Medical Officer of Health :—Satisfactory.

12. *Inspector of Nuisances :* William Henry Hulme.

No sanitary certificate. Salary, none. Mr. Hulme is a clerk in the Dredging Department.

Character and efficiency of work done by Inspector of Nuisances:—This Port Inspector of Nuisances has done nothing in the way of ship inspection. He was appointed Port Inspector of Nuisances in 1889, the idea being that as he is constantly employed on the river, he would be likely to receive the earliest information of the existence of disease on board vessels, and would be able to notify it to the Port Medical Officer of Health. It does not seem to to have been intended that he should discharge the regular duties of a Port Inspector of Nuisances. (*See* 13 below.)

13. *Nuisances:*—

Nuisances said to be dealt with by the Urban Inspector of Nuisances (William Baron) in whose district the docks are situate. He inspects, he states, practically all the vessels coming into the dock, but he has not kept a proper record of the results of such inspections in former years.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessel.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	3	—	—
		Sailing			
		Fishing			
		Total Foreign	3	—	—
	Coastwise.	Steamers	234	—	—
		Sailing			
		Fishing			
		Total Coastwise	234	—	—
1891	Foreign	Steamers	6	—	—
		Sailing			
		Fishing			
		Total Foreign	6	—	—
	Coastwise.	Steamers	274	—	—
		Sailing			
		Fishing			
		Total Coastwise	274	—	—
1892	Foreign	Steamers	2	—	—
		Sailing	2	—	—
		Fishing	—	—	—
		Total Foreign	4	—	—
	Coastwise.	Steamers	96	6	6
		Sailing			
		Fishing			
		Total Coastwise	96	6	6

14. *Isolation Hospital :—*

Hospital for 14 beds in process of erection at time of inspection in a convenient position near the docks. It will consist of a ward pavilion, containing two wards, for 10 and 4 beds respectively, and detached building for administrative purposes. Also detached wash-house and mortuary. Walls, double wood packed with sawdust. Roof, corrugated iron. Town water laid on. Drainage to a catchpit, and thence into tidal river below the docks. Excrement disposal by earth-closets. Cholera excreta to be disinfected and buried or burnt. Ample room for extension.

15. *Disinfecting Apparatus :—*

None. The Urban Sanitary Authority possess a hot-air chamber but it is situated in the town 1½ miles from docks.

16. *Mortuary :—*

Mortuary in process of erection at date of inspection near the hospital.

17. *Regulations under Section* 125, *Public Health Act*, 1875 :—

Regulations in preparation at time of inspection.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Act not adopted by the Port Sanitary Authority.
Notification compulsory in the Preston Urban Sanitary District under a local Act.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

"In the outer basin at the dock entrance." Only one Customs Officer stationed at Preston, and at the time of inspection his office was still in the town, two miles from the dock. A new office at the docks was, however, being prepared for him. A vessel found to be infected at the Boarding Station would probably have to come into the dock, though if she came up early on the tide she might possibly be able to get down to the mooring station forthwith. Boarding of foreign coming vessels the same at night as by day. Coasters boarded occasionally as time allows. No Coastguard at Preston.

Places of debarkation, Preston Dock and Lytham. No foreign vessels go to Lytham, and only very few small coasters, as the docks there are almost silted up.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

Vessels found to be "infected," or "suspected vessels," would be detained by the Customs for a period of 12 hours, if necessary, for inspection by the Port Medical Officer of Health.

Pilots licensed by Local Pilotage Board under the Ribble Navigation Act of 1853.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

Special messenger, or telephone, which is laid on to the docks.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships:—

No boat belonging to the Port Sanitary Authority as such, but it is stated that the Port Medical Officer of Health could have the use of the Corporation tugs.

e. Mooring Station:—

Mooring station fixed at No. 1 Buoy outside the River Ribble, which appears to be the only possible anchorage in the neighbourhood. It is, however, exposed, and it would be necessary to allow vessels to run elsewhere for shelter if really necessary for safety. It is doubtful whether it would be safe for small vessels and sailing vessels, and for such craft the centre of the dock would have to be used as an alternative mooring station. No. 1 Buoy is within the Port Sanitary District. It is approved of by the Customs officer for large steamers on condition they are allowed to run elsewhere if necessary.

f. Inspection of Vessels ("infected" or from "infected ports"):—

The Port Medical Officer of Health would inspect all "infected" vessels, and all vessels from "infected ports." The arrival of vessels from foreign is notified by telegram some hours before they actually arrive.

g. Examination of Persons on Vessels ("infected" or from "infected ports"):—

The ships' articles and log will be seen, and all persons on board examined.

h. Address Book:—

No address book kept.

i. Special Isolation Provision for Cholera:—

Hospital for 14 patients near the docks (*see* 14, above).

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

Such persons would be detained either on the vessel or at the hospital.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

None.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods:—*

(*a.*) None. Infected clothes will be burnt.

(*b.*) Sulphur fumigation. Corrosive sublimate and carbolic acid solutions.

(*c.*) None.

n. Arrangement made as to the Disposal of the Dead:—

None made.

o. Action as to Water Supply of Vessels from Infected Ports:—

Drinking-water will be ordered to be pumped out before entering the dock or basin, and tanks cleansed.

p. Action as to Bilges of Vessels from Infected Ports:—

Bilge water will be ordered to be pumped out before entering the dock or basin, and bilges cleansed with carbolic acid.

Final Conference with the Preston Port Sanitary Authority was held on July 13th, 1893, when formal recommendations were made with regard to the folllowing matters:—

1. The appointment of a Port Inspector of Nuisances to ensure the regular and thorough supervision of all vessels entering the port.
2. The provision of proper means of conveyance by water of (1) the inspecting officers of the Sanitary Authority, and (2) the sick.
3. The adoption of the Infectious Disease (Notification) Act, 1889.
4. The arrangements to be made to secure the provision of a sufficient supply of drinking water for use on board vessels from "infected ports."
5. The steps to be taken beforehand to secure, in the event of British Ports becoming infected by cholera, the medical inspection of vessels entering the port coastwise as well as from foreign.

In the course of the final conference the question of the mooring station was again discussed, and the undesirability of admitting any infected vessels, even small ones, into the dock, if it could be avoided, was pointed out by the Inspector. In the end it was agreed that No. 1 Buoy should, subject to the approval of the chief Customs officer, be the mooring station for all purposes, but that as vessels, obliged by stress of weather to run elsewhere for shelter, might find difficulty in signalling their intention of doing so, and as sailing vessels might not be able to run elsewhere, the Port Sanitary Authority would, on sending a vessel to the mooring station, also send a tug to lie by her, ready to bring information of her departure on account of bad weather, or if necessary to tow her to a place of safety.

Action taken by the Port Sanitary Authority since Inspection.

1. The Port Sanitary Authority has appointed one of the Urban Inspectors of Nuisances, Inspector of Nuisances to the Port Sanitary District. [Letter from the Port Sanitary Authority, dated July 27th, 1894.]

2. An arrangement was made during the autumn of 1893 by which the steam tugs of the Ribble Committee were put at the disposal of the Port Medical Officer of Health for inspection duty. [Annual Report, for 1893, of the Port Medical Officer of Health.]

5. The medical inspection of coasting vessels was apparently carried out in the autumn of 1893. [Annual Report, for that year, of the Port Medical Officer of Health.]

Regulations under section 125 of the Public Health Act, 1875, have been adopted by this Port Sanitary Authority, and were approved by the Local Government Board on April 12th, 1894.

No information as to any action taken under recommendations 3 and 4. [September 1895.]

Fleetwood Port Sanitary District.

[Fleetwood Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 28th, 1893.

Date of order *permanently* constituting Port Sanitary District: January 18th, 1888.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is "The Fleetwood Improvement Commissioners."

It exercises port functions in waters abutting upon the Fleetwood Urban, and upon the Garstang and Lancaster Rural Sanitary Districts.

2. *Limits of Jurisdiction:—*

"So much of the Customs Port of Fleetwood as is comprised within the following limits; that is to say, a straight line drawn from Rossall Point to the south-eastern extremity of Danger Patch, a straight line drawn from the south-eastern extremity of Danger Patch to No. 1 Buoy, and a straight line drawn from No. 1 Buoy to the seaward extremity of the common boundary of the detached part of the Township of Lancaster and of the Township of Garstang together with the waters," * &c.

These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Fleetwood Urban Sanitary District (part of).

Garstang Rural Sanitary District. Parishes:—Out Rawcliffe, Hambleton, Stalmine-with-Stainall, Preesall with Hackinsall and Pilling.

Fylde Rural Sanitary District. Parishes:—Singleton and Little Eccleston.

4. *Apportionment of Expenses:—*

Wholly borne by the Fleetwood Improvement Commissioners.

5. *General Character and Efficiency of Administration:—*

Hitherto the Port Sanitary Authority has omitted to provide itself with the necessary equipment for carrying out its duties, but improvement in this respect seems likely to be effected.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication, are indicated by *italics*):—

Foreign.—*The Baltic, Mediterranean, North America, Black Sea,* West Indies, Jersey. Occasional vessels from ports between Brest and the Elbe, and from Spain.

Coastwise.—*Liverpool, Isle of Man, Belfast, Londonderry, Glasgow, Ardrossan,* Troon, Stornoway, Fowey, and other South-west ports. Occasionally from all ports in England.

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* See footnote, page 89, *ante.*

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—*Imports.* Grain, timber, wood pulp, esparto, iron ore, logwood, and ice. No rags. No regular passenger trade with foreign, except Jersey [a boat twice a week during June and July]. No immigrants or transmigrants.
Exports. Salt and coal, general cargoes.

COASTWISE.—*Imports.* China clay, pig-iron, Irish oats, timber, and general cargoes. No rag trade. Important passenger trade with the Isle of Man; 4,000 passengers arrive a week; a boat a day (seven a week).
Exports. Salt and coal.
Pleasure steamers to Blackpool and neighbouring parts.

8. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	91	84,455	96	70,223	121	85,309
Foreign { Sailing	137	99,003	117	77,572	129	101,510
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	228	183,458	213	147,795	250	186,819
Coast-wise { Steamers	1,098	309,406	1,119	314,198	909	295,391
Coast-wise { Sailing	275	20,804	383	31,150	312	25,035
Coast-wise { Fishing			No Record.			
Total coastwise	1,373	330,210	1,502	345,348	1,221	320,426

The fishing trade of Fleetwood is considerable. It is calculated from the official records that 106 boats fish regularly from the port, ten of this number being steam trawlers; 56 sailing trawlers; two long line boats; and 38 prawn boats.
The steam trawlers are of about 30 tons register and carry ten men. They fish principally to the North of Ireland, but their operations range along the whole of the west coast of Great Britain, and on one or two occasions they have fished as far south as the Bay of Biscay. This is, however, of rare occurrence. The fishing trip usually occupies from 8 to 10 days.
The sailing trawlers usually fish within a limit of 60 miles from Fleetwood, and are not, as a rule, absent from port longer than six days. They are of about 25 tons register and carry a crew of four men.
The prawning industry is carried on close to the shore, and the boats return to port daily.
With the exception of the steam trawlers, all the boats referred to above are registered at the port of Fleetwood.

Inland Water Communication :—

Only the River Wyre, which is navigable about 4½ miles up. A few ships, and occasionally one from foreign, go up this river to a bone-mill. Such vessels are boarded by the Customs Officer before going up the river.

10. *Lines of Railway conveying Goods from Port:*—
Lancashire and Yorkshire and London and North-Western Railways.

11. *Medical Officer of Health:* J. D. Fausset.

Qualifications:—M.D. (Dub.), Lic. Med. & L. Ch. Salary, 20*l.* a year with repayment.

Dr. Fausset also acts as Medical Officer of Health for the Fleetwood Urban Sanitary District.

Character and efficiency of work done by the Medical Officer of Health:—Good.

12. *Inspector of Nuisances:* Matthew Smith Gaulter.

Qualifications:—No sanitary certificate. Salary, 30*l.* a year with repayment. Mr. Gaulter also holds the appointment of Inspector of Nuisances to the Urban Sanitary District. No assistant.

Character and efficiency of work done by Inspector of Nuisances:—Fairly satisfactory considering the time at his disposal. But coasting vessels have not hitherto been inspected.

13. *Nuisances:*—

INSPECTION OF SHIPPING, 1890–91–92.

	Class of Vessels.	Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign — Steamers	126	When deemed necessary Orders for cleansing, &c., were given and complied with.	
	Foreign — Sailing			
	Foreign — Fishing	—	—	—
	Total Foreign	—	—	—
	Coastwise — Steamers	—	—	—
	Coastwise — Sailing	—	—	—
	Coastwise — Fishing	—	—	—
	Total Coastwise	—	—	—
1891	Foreign — Steamers	119	When deemed necessary Orders for cleansing, &c., were given and complied with.	
	Foreign — Sailing			
	Foreign — Fishing	—	—	—
	Total Foreign	—	—	—
	Coastwise — Steamers	—	—	—
	Coastwise — Sailing	—	—	—
	Coastwise — Fishing	—	—	—
	Total Coastwise	—	—	—

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	103	When deemed necessary Orders for cleansing, &c., were given and complied with.	
		Sailing			
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Coastwise	—	—	—

Note (A). Hitherto Coastwise vessels have not been specially inspected.
Note (B). Orders issued for sanitary amendments would not average more than 50 per centum.

14. *Isolation Hospital:—*

None at the date of inspection. But plans had just been drawn by the Surveyor for a corrugated iron building with slate roof, containing one ward for four beds, water-closet and bath in annexe, and kitchen and nurse's room adjoining. The site upon which it was proposed to erect this hospital is conveniently situated (near the Docks) and sufficiently isolated. Patients could be brought by river at high water, almost to the hospital.

15. *Disinfecting Apparatus:—*

None specially for port purposes but the Urban Sanitary Authority has a Goddard and Massey's steam apparatus at their Town's Yard. This is situate no great distance from the docks, but it is proposed to burn cholera infected articles.

16. *Mortuary:—*

The Port Sanitary Authority possesses no mortuary. The Urban Sanitary Authority has a mortuary near the Town's Yard, but it is not proposed to use it for sea-borne cholera dead.

17. *Regulations under Section* 125, *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Not adopted by the Port Sanitary Authority but in force in the Urban District.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

The appointed Boarding Station is off Knott End, but owing to the strong tide, and frequent rough water there, vessels are practically as a rule boarded at the entrance to the dock. To

overcome the disadvantage of this practice the Port Sanitary Authority during the autumn of 1892 gave passage to the Customs Officers in a tug they hired for port purposes, and thus vessels from "infected ports" were interrogated by the Customs in Lune Deep. At the date of inspection, however, the Port Sanitary Authority was not disposed to continue this proceeding.

The Customs Establishment at Fleetwood consists of one Superintendent, one Preventive Officer, one Out-door Officer, and three Boatmen. They have an open rowing boat at their disposal.

The personal relations between the Customs and the Port Sanitary Authority appeared to be satisfactory, though the latter are strongly of opinion that the Customs arrangements as to boarding vessels require amendment.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots:—

Vessels would be detained in Lune Deep when possible, but if they were not ascertained to be "infected" until arriving at the entrance to the Dock they would, in certain states of tide, have to be admitted into the Dock for detention.

There are no Coastguards at Fleetwood. Pilots are licensed by Trinity House, London, but are under the control of a local Sub-Committee. They have been instructed by the Chief Officer of Customs and the Port Sanitary Authority to bring up "infected" or "suspected vessels" in Lune Deep and to fly the yellow flag.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health:—

Special messenger both by night and day.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships:—

None for ordinary times. During danger of Cholera in the autumn of 1892, the Harbour Authorities put a tug at the Port Sanitary Authority's disposal at the reduced charge of 1*l.* 1*s.* for the first hour, and 2*l.* 2*s.* for each hour afterwards, and the Port Sanitary Authority made considerable use of the tug. At the date of inspection, however, the Port Sanitary Authority did not propose to use the tug to the same extent. [See "*a*" above.]

e. Mooring Station:—

Mooring Station fixed "a third of a mile from the North-east "of Fairway Buoy and from thence to No. 1 on North-west "Buoy of Lune." This is in the Fleetwood Customs Port and Port Sanitary District, and has been approved by the Chief Officer of Customs.

f. Inspection of Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health undertakes to inspect all vessels from infected ports.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health will inspect the Ships' articles and muster and examine all hands on board.

h. Address Book :—

Address book will be kept.

i. Special Isolation Provision for Cholera :—

None at time of inspection.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons will be detained for 48 hours, if necessary, on the vessel upon which they arrive.

l. Means provided for Transfer of Infected Persons from Ship to Hospital :—

The Harbour Commissioners' tug if available, or ship's boat.
The Urban Sanitary Authority possesses a hand ambulance.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Cholera infected clothes would be burnt.
(*b.*) Chlorine or sulphurous acid fumigation. Corrosive sublimate and carbolic acid solutions.
(*c.*) None.

n. Arrangements made as to the Disposal of the Dead :—

None made at the time of Inspection.

o. Action as to Water Supply of Vessels from Infected Ports :—

If met in Lune Deep such vessels would be ordered to pump out their drinking water there and lime-wash their tanks. The Port Sanitary Authority did not, however, propose to supply fresh water.

p. Action as to Bilges of Vessels from Infected Ports :—

Bilges will be ordered to be pumped out in Lune Deep when possible, and cleansed with carbolic acid solution.

Final Conference with the Fleetwood Port Sanitary Authority was held on July 20th, 1893, when formal recommendations were made with regard to the following matters :—

1. The necessity for efficient inspection of vessels under the Public Health Acts.
2. The provision of sufficient and suitable means for the conveyance by water of (*a*) the Inspecting Officers of the Authority and of (*b*) cases of infectious sickness.
3. The provision of sufficient and proper mortuary accommodation.
4. The arrangements to be made to provide a proper water supply to vessels coming from infected ports.
5. The steps to be taken beforehand to ensure, in the event of British ports becoming infected with cholera, the medical inspection of all coastwise vessels entering the port.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

No formal recommendation was made with respect to isolation accommodation, as it was understood at the time of inspection that the Port Sanitary Authority was about to provide such accommodation. On returning to the district on July 20th, 1893, for final conference, the Inspector found that a small hospital for four patients had been erected by the Port Sanitary Authority at Denham's Bank, the site referred to in Section 14 of the above report.

This hospital contains one ward measuring 30′ × 20′ × 13′, with a bath room and earth closet in an annexe and a nurse's room and kitchen adjoining.

The walls consist of corrugated iron, match boarded internally, the interval being filled with sawdust. Ventilation of the ward is by opposite windows, the upper thirds of which open inwards. Warming is provided for by slow combustion stoves. Water will be sent from the town. Drainage at the time of the Inspector's visit was into a wooden tub sunk in the ground, it being proposed to disinfect the slop sewage thus collected, and dispose of it on the land. But it was intended to continue the drain ultimately into the tidal water. Excreta were to be mixed with shavings and petroleum and burnt. The hospital is well removed from dwellings, but not enclosed by any boundary fence.

Between the date of inspection and that of the final conference the Port Sanitary Authority appointed Dr. John Grimshaw, of Fleetwood, Honorary Assistant Port Medical Officer of Health, and adopted the Infectious Disease (Notification) Act, 1889, which came into force in their district on July 1st, 1893.

As regards the action taken by the Port Sanitary Authority with a view to carrying out the above formal recommendations the only information at present before the Board [August 15th, 1894] is as follows:—

1. "172 vessels have been specially inspected during the year, and all sanitary recommendations have been carefully attended to." [Annual Report of the Port Medical Officer of Health for 1893.] This shows some increase on the number of vessels inspected during the three previous years. See table under section 13 of above Report.

3. "A mortuary for the reception of the bodies of persons who may "die in the Port Sanitary Hospital" has been erected. [Letter from the Port Sanitary Authority dated February 3rd, 1894.]

As a result of the Inspector's report and of a resolution passed by the Port Sanitary Authority and forwarded to the Board, correspondence has taken place between the Board and Her Majesty's Commissioners of Customs with reference to the selection of a Customs Boarding Station more favourably situate for Port Sanitary purposes than that now in use. No alteration in the boarding station has, however, at present been made.

The Infectious Disease (Notification) Act, 1889, adopted by Port Sanitary Authority on May 10th, 1893.

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SECTION XX.

Customs Ports of Lancaster, Barrow, and Whitehaven.

Illustrated in Map XX.

LIMITS OF CUSTOMS PORTS.

(64.) *Lancaster.*

The limits of the said Port of Lancaster shall commence at the eastern side of the point of land nearest to the north-east side of Fluke Hall, being the north-eastern boundary of the Port of Fleetwood, in the County of Lancaster, and shall extend in a northerly direction along the coast of the said County to and along the east side of the River Leven to mid-stream thereof, at a place called Greenodd, being the north-eastern boundary of the Port of Barrow, and shall include all the waters of the Estuary of the River Lune to the north and east of a line drawn from Fluke Hall Point, above designated, north-west-by-north for a distance of three miles and six-tenths of a mile to a point in the sea at present indicated by the outermost buoy at the entrance to the River Lune, known as No. 1 Lune Buoy, such line being the north-eastern boundary of the Port of Fleetwood, and shall*

Date of Treasury Warrant, 19th day of October 1888.

Within the boundaries of this Customs Port are comprised the Port Sanitary District of Lancaster, the Urban Riparian Sanitary districts of Morecambe and Grange and certain Riparian Parishes of the Rural Sanitary Districts of Lancaster and Kendal. The shipping trade is practically confined to the Lancaster Port Sanitary District, as to which a report will be found at page 627.

(65.) *Barrow.*

The limits of the said Port of Barrow-in-Furness shall commence at a place called Greenodd, in the County of Lancaster, being the northern boundary of the Port of Lancaster, and shall extend in a southerly direction along the west side of the River Leven to mid-stream thereof, thence round the Peel of Fowdry and the Island of Walney, up the east side of the River Duddon to the mid-stream thereof, to Duddon Bridge or Foot, being the south-eastern boundary of the Port of Whitehaven, and shall*

Date of Treasury Warrant, 31st day of August 1872.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary Districts of Ulverstone, Barrow-in-Furness, and Dalton-in-Furness, and certain Riparian Parishes of the Rural Sanitary District of Ulverstone. The shipping trade is practically contined to the Barrow-in-Furness Urban Riparian District, a report as to which will be found at page 634.

(66.) *Whitehaven.*

The limits of the said Port shall commence at the south side of Duddon Bridge, over the River Duddon, and so continue down the River along the

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* See footnote, page 78, *ante*.

mid-stream thereof, and thence along the sea coast to a stream called Lowca Beck, which stream separates the two Parishes of Moresby and Harrington, and also that the limits of the said port shall*

Date of Treasury Warrant, 30th day of March 1850.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary Districts of Millom and Whitehaven, and certain Riparian Parishes of the Rural Sanitary Districts of Bootle and Whitehaven. The shipping trade is chiefly confined to the Millom Urban Riparian District, and the Whitehaven Rural Riparian Sanitary District, as to the former of which a report will be found on page 638.

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* See footnote, page 78, *ante*.

Lancaster Port Sanitary District.

[Lancaster Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* April 8th, 1893.

Date of Order *permanently* constituting Port Sanitary District: November 26th, 1891.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is the Mayor, Aldermen, and Burgesses of the Borough of Lancaster, acting by the Council.

It exercises port functions in waters abutting upon the Urban Sanitary District of Lancaster, and upon the Rural Sanitary District of Lancaster.

2. *Limits of Jurisdiction:—*

"So much of the said Port of Lancaster as lies between the bridge carrying the London and North-Western Railway across the River Lune in the northward course of the said railway from Lancaster Station, and a line following the course of the common boundary of the Ports of Lancaster and Fleetwood, from the eastern side of the point of land nearest to the north-east side of Fluke Hall as far as a point on the third meridian of longitude west from Greenwich, and continued thence in a straight course and in a north-easterly direction to Sunderland Point; together with the waters," * &c.

These limits are apparently satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Lancaster Urban Sanitary District.
Lancaster Rural Sanitary District. Parishes:—

Overton, Heaton with Oxcliffe, Skerton, Thurnham, Ashton with Stodday, Aldcliffe, Cockersand Abbey and Cockerham.

Garstang Rural Sanitary District. Parish:—Pilling (part of).

4. *Apportionment of Expenses:—*

The Urban Sanitary Authority of Lancaster contributes in proportion to the rateable value of the district, and the Rural Sanitary Authority of Lancaster in proportion to the rateable value of the contributory place of Thurnham.

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* See note, page 89, *ante*.

5. *General Character and Efficiency of Administration :—*

The Port Sanitary Authority has, so far, failed to provide itself with proper equipment for dealing with sea-borne cases of infectious disease.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Port Sanitary District has most trade, or is in most frequent communication are printed in *italics*) :—

(*a.*) FOREIGN.—*Hamburg, Antwerp, Baltic ports,* Norway, Sweden, Rouen, Tréport, Portugal, North America, West Coast of Africa.

(*b.*) COASTWISE.—*London, Fowey,* Isle of Man, Amlwch, Pwllheli. Only an occasional vessel from Ireland, Workington, and Channel Ports.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

FOREIGN.—Imports : Muriate of potash from Hamburg. Timber from Norway, Sweden, America, and Baltic. Ochre from Rouen and Tréport. Cork from Portugal. Grain from West Coast of Africa.

Exports : Practically none, a little coal occasionally.

COASTWISE.—Imports : Cement from London and Fowey. Slates and grain from Wales. Pig-iron from Workington.

No rags, passengers, immigrants, or transmigrants from foreign. A few excursion steamers from neighbouring British ports during the summer.

8. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	6	2,138	4	1,214	9	2,196
Foreign { Sailing	36	9,507	32	7,874	27	8,227
Foreign { Fishing	Nil.	—	Nil.	—	Nil.	—
Total Foreign	42	11,645	36	9,088	36	10,423
Coastwise { Steamers, Sailing	246	24,208	171	16,612	129	13,307
Coastwise { Fishing	None in Port Sanitary District.					
Total Coastwise	246	24,208	171	16,612	129	13,307

9. *Inland Water Communication :—*

The "Lancaster Canal" which joins the Preston and Kendal Canal. Some sea-borne goods go up this canal to Kendal and Preston. Chiefly timber and nitrate of soda. Most of the canal boats are registered at Preston, some at Lancaster. Canal boats are regularly inspected in the Lancaster Urban Sanitary District by the Inspector of Canal boats. Some inspection effected in the Lancaster Rural District also.

10. *Lines of Railway conveying Goods from Port :—*

London and North-Western Railway.
Midland Railway.

11. *Medical Officer of Health :* George Roger Parker.

Qualifications :—L.R.C.P., M.R.C.S. Salary, 20*l.* per annum ; with repayment.

Mr. Parker also holds the appointments of Medical Officer of Health for both the Lancaster Urban and the Lancaster Rural Sanitary Districts.

Character and efficiency of work done by Medical Officer of Health :—This Port Medical Officer of Health is an active officer. He is acquainted with, and is prepared to carry out, as far as the means at his disposal allow, the duties imposed under the Board's General and Special Orders as to Port work.

12. *Inspector of Nuisances :* Isaac Smith.

No sanitary certificate. Salary, 10*l.* per annum, with repayment. Mr. Smith is also Inspector of Nuisances for the Lancaster Urban Sanitary District.

Frederick William Smith, a son of the Inspector of Nuisances, has been appointed Assistant Inspector of Nuisances for the Lancaster Urban Sanitary District at a salary of 30*s.* per week, but he has not been appointed for the Port Sanitary District, although it is understood that he does a considerable part of the work. He holds a certificate from the Sanitary Institute.

Character and efficiency of work done by the Inspector of Nuisances :—Fair.

The Assistant Inspector of Nuisances who apparently does most of the ship inspection appears to be acquainted with the sanitary needs of vessels.

13. *Nuisances :—*

The Port Inspector of Nuisances (or his son who assists him) visits Glasson Dock every fortnight and inspects any vessels there. From the following table it will be observed that no orders for the abatement of nuisances on board vessels have been issued during the last three years. The Inspector of Nuisances states that the defects were of a minor character, and were in each instance pointed out to the master of the vessel, whose promise to have them abated was accepted.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number Inspected.	Number reported to be Defective.	Number of Orders Issued.
1890	Foreign	Steamers	1	—	—
		Sailing	16	4	—
		Fishing	—	—	—
		Total Foreign	17	4	—
	Coastwise.	Steamers	—	—	—
		Sailing	176	13	—
		Fishing	—	—	—
		Total Coastwise	176	13	—
1891	Foreign	Steamers	2	—	—
		Sailing	23	6	—
		Fishing	—	—	—
		Total Foreign	25	6	—
	Coastwise.	Steamers	1	1	—
		Sailing	117	5	—
		Fishing	—	—	—
		Total Coastwise	118	6	—
1892	Foreign	Steamers	2	—	—
		Sailing	20	4	—
		Fishing	—	—	—
		Total Foreign	22	4	—
	Coastwise.	Steamers	1	—	—
		Sailing	80	3	—
		Fishing	—	—	—
		Total Coastwise	81	3	—

14. *Isolation Hospital :—*

The Port Sanitary Authority has no isolation accommodation in readiness. In September 1892, permission was given by the owner of some land for the erection thereon of tents in case of need. This site is on the bank of the River Lune, about two miles above Glasson Dock, and is well isolated. No tents had been purchased at the date of inspection, but an arrangement had been made with a firm at Liverpool to supply them upon receipt of a telegram. This arrangement, however, which had been made during the previous year, had not been renewed at the time of the Inspector's visit. It was proposed that the excreta should be buried, and that water and provisions should be sent from Lancaster, either by river or by rail.

15. *Disinfecting Apparatus:—*

The Port Sanitary Authority does not possess a disinfecting apparatus.

[The Lancaster Urban Sanitary Authority is about to provide a steam apparatus at the new urban hospital which is situate near the river bank just below Lancaster Quay.]

16. *Mortuary:—*

The Port Sanitary Authority has no mortuary. There is a mortuary at the Urban Isolation Hospital with accommodation for two bodies, and there is a second mortuary in the town of Lancaster with accommodation for six bodies.

17. *Regulations under Section* 125 *Public Health Act*, 1875:—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889:—

Not adopted.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations:—

The regular Boarding Station is situate at a boarding stage immediately outside Glasson Dock, but vessels known to be coming from "infected ports" would, as far as possible, be boarded at No. 1 Buoy. Boarding carried out by night as by day. Coasters boarded either at the boarding stage or at their moorings. The Customs Staff consists of one Principal Coast Officer and one Boatman. An additional officer is employed in the summer if required.

The only places of debarkation in the Port Sanitary District are Glasson Dock and Lascaster Quay. Vessels going to Lancaster Quay are boarded at Glasson; they are mostly coasters carrying cement.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard and by Pilots:—

Infected or suspected vessels would be detained at the Mooring Station for 12 hours if necessary for inspection by the Port Medical Officer of Health.

Pilots are licensed by the Lancaster Port Commissioners. In September 1892, (by arrangement with the Clerk of the Pilotage Board) the two chief Pilots, were asked by the Port Sanitary Authority to bring-to any vessel from an "infected port," or with sickness on Board, at No. 1 Buoy (the Mooring Station) and there to remain until visited by the Port Medical Officer of Health.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health:—

By telegraph during the day. Special messenger during the night. It is stated that the Pilots would not bring vessels from infected ports in at night.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships :—

The Port Sanitary Authority does not possess any boat ; but the Port Commissioners have agreed to place their steam-launch at the disposal of the Port Medical Officer of Health.

e. Mooring Station :—

A Mooring Station has, with the approval of the Chief Officer of Customs, been fixed near No. 1 Buoy at the mouth of the Lune off Fleetwood. The station fixed is apparently not within the Port Sanitary District, and is not quite satisfactory.

f. Inspection of Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health undertakes to inspect all vessels from "infected ports." The pilots will, it is stated, telegraph their arrival to him from Fleetwood, and he will then drive to Glasson Dock to meet them. No vessels come up the Lune during the night.

g. Examination of Persons on Vessels ("infected" or from "infected port") :—

The Port Medical Officer of Health will consult the ships' articles, and muster and examine all hands on board.

h. Address Book :—

No special address book kept hitherto.

i. Special Isolation Provision for Cholera :—

None in readiness.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera :—

Such persons would be kept on board the vessel on which they arrived.

l. Means provided for transfer of Infected Persons from Ship to Hospital :—

The Port Commissioners steam-launch.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods :—

(*a.*) Cholera infected articles would be burnt.
(*b.*) Sulphur fumigation and washing with solution of corrosive sublimate solution.
(*c.*) None.

Arrangements made for the Disposal of the Dead :—

None.

o. Action as to Water Supply of Vessels from Infected Ports :—

Vessels from infected ports will be ordered to pump out their drinking water before going into dock or coming up the river. Tanks will be treated with permanganate of potash, and fresh water sent from Lancaster.

p. Action as to bilges of Vessels from Infected Ports :—

Bilges will be ordered to be pumped out before coming into dock or up the river, and cleansed with "Jeye's Disinfectant." Ballast water will also be pumped out when possible.

Final Conference with the Lancaster Port Sanitary Authority was held on July 12th, 1893, when formal recommendations were made with regard to the following matters :—

(1.) The provision of proper hospital accommodation.
(2.) The adoption of the Infectious Disease (Notification) Act, 1889.
(3.) The steps to be taken beforehand, in the event of Cholera spreading to English ports, to ensure the regular supervision and medical inspection of all coastwise as well as of all foreign traffic.

In the course of the conference certain objections to the proposed mooring station were pointed out by the Inspector.

ACTION TAKEN BY THE PORT SANITARY AUTHORITY SINCE INSPECTION.

1. A wooden hospital has been acquired for the treatment of cholera cases, but some difficulty seems to have arisen with respect to the site. [Annual Report of the Port Medical Officer of Health for 1893.]

2. The Infectious Disease (Notification) Act, 1889, apparently not yet adopted. [September 1895.]

3. The Port Inspector of Nuisances and his Assistant were instructed by the Port Sanitary Authority, in July 1893, to regularly inspect, by day and by night, all coastwise vessels arriving within the district. [Letter from the Port Sanitary Authority, dated July 26th, 1893.]

A fresh mooring station has been fixed by the Port Sanitary Authority to the north of No. 1 buoy, near the mouth of the River Lune. Being without the limits of the Port Sanitary District, the Board's sanction to its adoption was required. This was given by an Order issued on November 30th, 1893.

BARROW-IN-FURNESS URBAN RIPARIAN SANITARY DISTRICT.

[Barrow Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* October 3rd, 1893.

1. *Sanitary Authority.*—The Town Council of Barrow-in-Furness.

2. *Limits of Jurisdiction.*—Riparian limits extend from Sandscale on the N.W. to White Hall on the S.E., the seaward limit following the Scarth Channel in a westerly direction from Lowsy Point, and afterwards following low-water mark and including practically all islands, &c.

3. *Parishes of Sanitary District which are Riparian.*—Only Barrow Parish which is co-extensive with the Urban Sanitary District.

4. *General Character and Efficiency of Administration.*—Fair.

5. *Ports from whence Ships arrive.* (Ports or places (British and foreign) with which Riparian District has more trade, or is in more frequent communication, are printed in *italics*) :—

FOREIGN.—*Sarpsborg*, Ornskoldsvik, Helsingfors, *Sundsvall*, *Tornea*, *Laurvig*, Riga, *Batoum*, Novorossiisk, Ergastiria, *Cartagena*, *Bilbao*, Garrucha, Havre, Hamburg, Antwerp, and Rotterdam, River Plate, New York, Canada. Occasionally from India.

COASTWISE.—*Liverpool*, *Belfast*, *Glasgow*, London, Swansea, Cardiff, Ardrossan, and occasionally from various other ports.

6. *Character of Trade:*—

FOREIGN.—*Imports.* Timber from the Baltic and North America. Iron ore from Spain and Greece. Corn and petroleum from the Black Sea. Grain from South America and India. No regular passenger trade, but occasionally passengers from Antwerp. No rags, no immigrants or transmigrants.

Exports.—Steel rails and railway iron, pig iron, bricks.

COASTWISE.—*Imports.* General goods, coal.

Exports.—Tin plate bars, steel rails.

7. *Amount of Shipping Inwards during three years*, 1890–91–92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign - Steamers	107	106,108	50	57,987	69	79,896
Foreign - Sailing	53	40,159	45	30,771	50	43,594
Foreign - Fishing	No record.		—	—	—	—
Total Foreign	160	146,267	95	88,758	119	123,490
Coastwise - Steamers	1,259	314,123	1,242	324,825	1,219	297,800
Coastwise - Sailing	330	28,485	290	48,410	211	15,682
Coastwise - Fishing	No record.		—	—	—	—
Total Coastwise	1,589	342,608	1,532	373,235	1,430	313,482

8. *Inland Water Communication.*—None.

9. *Railways conveying Goods from Riparian District.*—The Furness Railway.

10. *Medical Officer of Health.*—John Settle. Qualifications: L.R.C.P. and L.R.C.S. Ed. Salary, 100*l.* per annum without repayment.

Mr. Settle also acts as District Medical Officer and Public Vaccinator for the Barrow-in-Furness District.

Character and efficiency of Port work done by Medical Officer of Health.—The Medical Officer of Health is apparently acquainted with the cholera orders and prepared to carry them out.

11. *Inspector of Nuisances.*—John Halifax. No sanitary certificate [formerly a small-pox hospital attendant]. Salary, 150*l.* per annum without repayment.

Mr. Halifax also acts as inspector of slaughter-houses and inspector for the removal of house refuse.

Character and efficiency of Port work done by Inspector of Nuisances.—The Inspector of Nuisances is apparently an intelligent officer, but see 12 below.

Assistant Inspector of Nuisances.—Thomas Silverwood. Salary, 78*l.* per annum without repayment.

12. *Nuisances.*—Vessels said to be regularly inspected, but no sufficient record kept to enable the Inspector of Nuisances to fill in the usual return.

13. *Isolation Hospital.*—The Urban Sanitary Authority possesses a cholera hospital on Sheep Island near the entrance to the channel. This consists of a wooden building covered with felt and built upon concrete foundations. It contains one ward measuring 26 ft. × 26 ft. × 12 ft., and intended for four patients; annexe containing a watercloset and slop sink, a kitchen, bath, and store-room. At the time of inspection the hospital was not furnished, neither were the stoves in position. The hospital is well isolated; there is ample room for extension, and the Sanitary Authority has a scheme for extending it if necessary. Patients could only be landed by water a little before and after high water. Water is obtained from a well on the island, and sand and gravel filters were, at the date of inspection, about to be put down for filtering the water before distributing to the hospital. A caretaker had been engaged, and it was proposed to have the hospital furnished and put in readiness.

14. *Disinfecting Apparatus.*—No disinfecting apparatus at the cholera hospital or in the Urban Sanitary District. At the Urban Sanitary Authority's fever hospital there is a chamber for sulphur fumigation.

15. *Mortuary.*—No mortuary at the cholera hospital. Mortuary at Urban Sanitary Authority's fever hospital, this, however, is a mile and a half from the docks and considerably more from the cholera hospital.

16. *Regulations under Section* 125 *Public Health Act,* 1875.—None made.

17. *Infectious Disease* (*Notification*) *Act,* 1889.—Act adopted October 28th, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—At the entrance to Ramsden Dock. Vessel are hailed as they are entering the dock and boarded in the dock. Whether or not a vessel there found to be "infected" could be sent at once to the mooring station would depend upon the tide. Customs Officers attend the boarding station for four hours each tide, and vessels from foreign are boarded at night as by day. Coasters visited, but health questions not put. Customs Officers have one boat (14 feet open boat) which is kept at Piel. The situation of the Customs boarding station is very unsatisfactory for cholera purposes. According to existing arrangements a vessel would not be ascertained by the Customs to be "infected" with cholera until she was entering the dock. It would then doubtless be often impossible to send her out of dock until the next tide, and occasionally, it might be impossible to send out a large vessel for some days. Apart from the general objection to this system, it practically precludes the Medical Officer of Health from carrying out Article 4 of the Order of September 6th, 1892, except as regards vessels ascertained by the

Sanitary Authority, independently of the assistance of the Customs, to be "infected" with cholera.

The places of debarkation in this district are the docks and Ramsden Dock Station in the channel just outside the docks. Only Belfast vessels and one or two others coming coastwise discharge cargoes at the Ramsden Dock Station. No Customs Officer is stationed there.

Some dynamite is landed at Piel.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—"Infected" or "suspected vessels" would be detained in the dock or basin pending arrival of the Medical Officer of Health.

No Coastguards at Barrow.

Pilots licensed by Trinity House, London. The following notice had been issued to them by the Urban Sanitary Authority:—

BOROUGH of BARROW-IN-FURNESS.

Cholera.

Warning to Masters of Vessels.

Notice is hereby given that vessels having on board any case of cholera will not be allowed to remain in the docks, but will be put out again immediately, even at the risk of grounding in the Channel or in Piel Anchorage.

Masters are therefore advised in such cases either to anchor their vessels in Piel, if there is water for them, or, if there is not sufficient water, to take them across to the Lune.

September 1892. By order of the Local Authority.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—Telephone from docks to Custom House during the day, and special messenger from Custom House to the Medical Officer of Health.

At night, special messenger from the docks.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships:—The Urban Sanitary Authority possesses no launch or boat. If a boat were required the Medical Officer of Health would hire one or go out in the Customs boat. Tugs could be obtained if required. Practically, the Medical Officer of Health does not, under existing circumstances, require a boat, as, owing to the position of the Customs boarding station and the absence of arrangements by the Sanitary Authority to inspect vessels prior to the Customs, "infected" or "suspected vessels" would be in the dock when examined by the Medical Officer of Health.

e. Mooring Station.—Mooring station fixed in Piel Channel to the north-east side of Piel Island. It is within the Urban Sanitary District and has been approved by the Chief Officer of Customs.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health inspects all vessels from "infected ports." The Customs send him notice that such a vessel has arrived, and he visits her in the dock.

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health consults the ship's articles, and examines all persons on board.

h. Address Book.—No special address book kept.

i. Special Isolation Provision for Cholera.—Wooden hospital for four patients on Sheep Island.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons would either be detained on board ship or in the hospital.

l. Means provided for Transfer of Infected Persons from Ship to Hospital.—None provided for conveyance by water; the ship's boat would be used. The Urban Sanitary Authority possesses a horse ambulance. There is no stretcher at the cholera hospital.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods.*—
(*a.*) Cholera-infected clothes would be burnt.
(*b.*) Sulphur fumigation. Corrosive sublimate solution.
(*c.*) None.

n. Arrangements as to the Disposal of the Dead.—Such persons would probably be buried in Rampside Churchyard. No definite arrangement made.

o. Action as to Water Supply of Vessels from Infected Ports.—Water would be pumped out in the dock, tanks cleansed, and fresh water supplied.

p. Action as to Bilges of Vessels from Infected Ports.—Bilges said to have been usually pumped out before vessels arrive at the dock. Bilges had not to time of inspection been disinfected.

Final Conference with the Barrow-in-Furness Urban Riparian Sanitary Authority was held on October 3rd, 1893, when formal recommendations were made with regard to the following matters:—

1. The maintenance of the cholera hospital in a state of preparedness for the reception of patients, and the provision of proper laundry and mortuary accommodation in connexion therewith.
2. The provision of a suitably equipped boat for the comfortable conveyance of patients from ship to Sheep Island, and of a stretcher for transfer of patients from such boat to the hospital.
3. The adoption of regulations under section 125 of the Public Health Act, 1875.
4. The steps to be taken beforehand to secure, in case of necessity, the medical inspection, by night and by day, of all vessels, whether from foreign or coastwise.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

1. During the year 1893 the Cholera Hospital was put in a state of readiness for the reception of patients. [Annual Report of the Medical Officer of Health for the year 1893.]

3. Regulations under section 125 of the Public Health Act, 1875, have been adopted by this Authority, and were approved by the Local Government Board on July 20th, 1894.

As regards the other recommendations a letter from the Authority, dated October 23rd, 1893, stated that it had been decided to carry them out, and that part of the work had already been accomplished.

During the year 1894, 151 vessels of all descriptions inspected, nuisances remedied, and fresh drinking water supplied when it was considered advisable. [Annual Report of the Medical Officer of Health for the year 1894.]

MILLOM URBAN RIPARIAN SANITARY DISTRICT.

[Whitehaven Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* October 4th, 1893.

1. *Sanitary Authority.*—The Millom Urban Sanitary Authority.

2. *Limits of Jurisdiction.*—The riparian limits extend from Stoup Dub Haverigg on the south to Salthouse Pool on the north. The water limit following the middle of the Duddon Estuary.

3. *Parishes of Sanitary District which are Riparian.*—Parish of Millom (parts of townships of Millom Below and Chapel Sucken).

4. *General Character and Efficiency of Administration.*—Very good. In consideration of the size of the district and the amount of shipping, the arrangements at Millom for carrying out the Cholera Orders are of a very complete and satisfactory character. Not only has the Sanitary Authority provided a hospital, disinfecting apparatus, ambulance, mortuary, &c. since the danger of cholera occurred, but in order to overcome the disadvantage in which the district is placed by the fact of there being no Customs Officer or Coastguard stationed there, the Authority has appointed a special Inspector of Nuisances practically to carry out the Customs cholera duties.

5. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which Riparian District has most trade, or is in most frequent communication, are printed in *italics*):—

FOREIGN.—Only occasional vessels direct from foreign. Bilbao, St Malo, and Norwegian ports.

COASTWISE.—Liverpool, Glasgow, *Belfast*, Dublin, Fleetwood, Workington, Drogheda, Londonderry, Ardrossan, Cardiff occasionally.

6. *Character of Trade:*—

FOREIGN.—*Imports.* Iron ore from Spain. Timber from Norway. No rags, passengers, immigrants or transmigrants.

Exports.—Iron ore. Pig iron.

COASTWISE.—*Imports.* Timber and coal.

Exports.—Iron ore. Pig iron. No rags or passengers coastwise.

7. *Amount of Shipping Inwards during three years* 1890-91-92:—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	—	—	11	2,292	11	2,072
Foreign { Sailing	—	—	—	—	—	—
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	—	—	11	2,292	11	2,072
Coastwise { Steamers	261	21,820	213	16,678	214	18,130
Coastwise { Sailing	408	55,982	527	75,651	792	112,439
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	669	77,802	740	92,329	1,006	130,569

8. *Inland Water Communication.*—None.

9. *Railways conveying Goods from Riparian Districts.*—The Furness Railway.

10. *Medical Officer of Health.*—Percy Butler Stoney.
Qualifications.—L.R.C.P.,Edin., M.R.C.S. Eng., L.S.A. Salary, 60*l.* per annum, with repayment.
Other Public Appointments.—The Medical Officer of Health also holds the appointments of District Medical Officer and Public Vaccinator for the Millom District of Bootle Union.

Character and efficiency of Port work done by Medical Officer of Health.—Very good.

11. *Inspector of Nuisances.*—H. Waye.
No sanitary certificate. Salary, 115*l.* per annum, with repayment. Mr. Waye also acts as Surveyor to the Urban Sanitary Authority (salary, 85*l.*).

Character and efficiency of Port work done by Inspector of Nuisances.—The Inspector of Nuisances is apparently an intelligent and active officer, and may be expected to discharge his duties in connexion with shipping in a systematic manner.

G. H. Spencer, Temporary Assistant Inspector of Nuisances appointed for shipping. During 1892 Mr. Spencer was paid 1*s.* a vessel for all vessels inspected. (He is only expected to inspect them as to the health of those on board; the inspection for nuisances being carried out by Mr. Waye.)

12. *Nuisances.*—Vessels not systematically inspected as to nuisances until the autumn of 1892. Since that time most vessels have been inspected.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise.	Steamers	No record kept, but occasional inspections made.		
		Sailing			
		Fishing	—	—	—
		Total Coastwise	—	—	—
1891	Foreign	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise.	Steamers	No record kept, but occasional inspections made.		
		Sailing			
		Fishing	—	—	—
		Total Coastwise	—	—	—

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1892	Foreign	Steamers	—	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	—	—	—
	Coastwise	Steamers	208	*	*
		Sailing			
		Fishing	—	—	—
		Total Coastwise	208	—	—

*These were chiefly coasting vessels, carrying cargoes to other more important home ports where inspections had already been made. No formal orders have been issued, though the inspector has occasionally given verbal instructions with regard to minor matters, which have invariably been readily complied with.

13. *Isolation Hospital.*—The Urban Sanitary Authority possesses a cholera hospital, which is situate in a convenient position near the pier. It was partly erected in 1892, and it has since been added to. It is a one-storied wooden erection, and consists of two blocks, 59′·0″ × 19′·0″, and 35′·0″ × 19′·0″, respectively, outside measurements. These were previously used for a short period as workmen's cottages, in connexion with the sea-wall works in the immediate vicinity. The walls consist of wood on brick foundations, with damp-proof course between. The subsoil is of sand and gravel. The wood walls and partitions are constructed of 3″ × 3″ posts and rails, with ½″ rough boards on each side, and packed between with sawdust. The outsides have wood strips nailed over the joints and tarred. On the inside, the whole surface, including ceilings, is covered on the rough boards with ⅝″ planed tongued and grooved boards, secured to 1½″ × ⅝″ laths. The floors have 1″ tongued and grooved boards, laid on 4½″ × 3″ joists, which are supported on sleeper walls. Air space is left, and air bricks built in the foundation for ventilation under floors. The roofs are covered with corrugated galvanised iron, lap-jointed. The windows are sliding casements, and each apartment is provided with ceiling ventilators consisting of perforated zinc. The larger block consists of one ward, about 34′·0″ × 18′·0″, kitchen, about 14′·0″ × 18′·0″, and two bedrooms, 10′·0″ × 9′·0″ each, with an average height of about 8′·5″. The ward is entered by folding doors from the open air, and is warmed by an open fire. The party wall and chimney breast divides this ward from the living apartment (or kitchen), and has two small fixed windows which overlook the beds in ward. On the north-west side, there is a small wing which consists of a small pantry for storing food, with 4½″ brick walls and flagged floor, and there is also a covered passage leading between the kitchen and the ward, with two small casement windows to open for ventilation. The other block, which consists of one ward only, and is divided from the larger block by a space of about 12 feet, is constructed in a precisely similar manner, except that, instead of an open fire, it is heated with a slow combustion stove, placed about the centre of the ward, and having a fresh-air inlet from the external air, which is warmed by passing around the case of stove. An exhaust is provided by a ventilating cowl placed on a 9″ sanitary pipe above the ceiling, through which the stove pipe passes—the latter passing through the centre of ventilating cowl. The two ward-blocks are connected by a passage with open front, and covered with galvanised iron. There is also in connexion with these a small coal-house, and about 15 feet distant from the nearest ward, there is one of Moule's earth closets in a

detached building. The drainage is constructed of 6″ earthenware socket pipes and trapped gullies, and discharges into a watercourse near the railway, which watercourse is covered by the ordinary spring tides. A good supply of town's water is laid on to the site, and gas from the local board's mains. One of J. Wright's large gas boilers supplies hot water to the wards when required. There has also been recently built, about 140 feet distant from the nearest ward, a wash-house, mortuary, disinfecting house, and ambulance house. These are built of 9″ brick walls, covered with slates, and have concrete floors. A caretaker resides in the hospital, which is kept in readiness. There is ample room for extension, and the Sanitary Authority has a scheme for erecting a permanent hospital on the site.

14. *Disinfecting Apparatus.*—Manlove and Alliott's Washington Lyon's apparatus at cholera hospital.

15. *Mortuary.*—Mortuary for one body, erected at cholera hospital.

16. *Regulations under Section* 125, *Public Health Act*, 1875.—None made.

17. *Infectious Disease (Notification) Act*, 1889.—Adopted November 5th, 1889.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—No Customs or Coastguard Officer stationed at Millom. The district is visited occasionally by Customs Officer from Whitehaven, and specially on arrival of vessels from foreign. The Customs Officer at Whitehaven, receives information by telegram when a vessel leaves a foreign port for Millom. and he then attends at Millom to meet her.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—The Customs Officer, if he arrived at Millom in time to meet a vessel from foreign directly she came in, would, if he had reason to suspect her to be "infected," immediately apprise the Sanitary Authority, and detain the vessel for medical inspection.

No licensed Pilots at Millom, but several private Pilots employed by the Hodbarrow Iron Company, who own the harbour.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officer of Health.—Telephone from the harbour to the Market Square, which is near the Medical Officer of Health's residence. At night a special messenger would be necessary. The Authority's temporary Inspector of Nuisances would usually be available for facilitating communication.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships.—A boat would be hired if necessary.

e. Mooring Station.—Mooring station fixed between Hodbarrow pier and the ironworks. It is within the district, and has been approved by Chief Officer of Customs at Whitehaven. It is dry at low-water, but that would be the case with any possible mooring station within 10 miles.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health will inspect all vessels from "infected ports."

The temporarily appointed Inspector of Nuisances attends at the pier at each tide, and inquires as to health of persons on board vessels arriving. If he met with an "infected" or "suspected vessel," or a vessel from an "infected port," he would at once inform the Medical Officer of Health.

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health will examine ships' articles, and muster and examine all on board.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—The wooden hospital referred to above.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons would be detained in hospital, or on the ship, according to circumstances.

l. Means provided for transfer of infected Persons from Ship to Hospital.—Horse ambulance and stretcher kept at the hospital.

m. Arrangements made for Disinfection of (*a*) *Clothes*, (*b*) *Ship*, (*c*) *Goods.*—
(*a.*) Washington Lyon's Disinfecting Apparatus.
(*b.*) Sulphur fumigation, swabbing with corrosive sublimate solution.
(*c.*) For small goods, the "Washington Lyon" would be available.

n. Arrangements as to the Disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—Drinking water will be pumped out, fresh water supplied, and tanks cleansed with "Sanitas."

p. Action as to Bilges of Vessels from Infected Ports.—Bilges will be pumped out and cleansed with corrosive sublimate solution.

Final Conference with the Millom Urban Riparian Sanitary Authority was held on October 4th, 1893, when formal recommendations were made with regard to the following matters:—

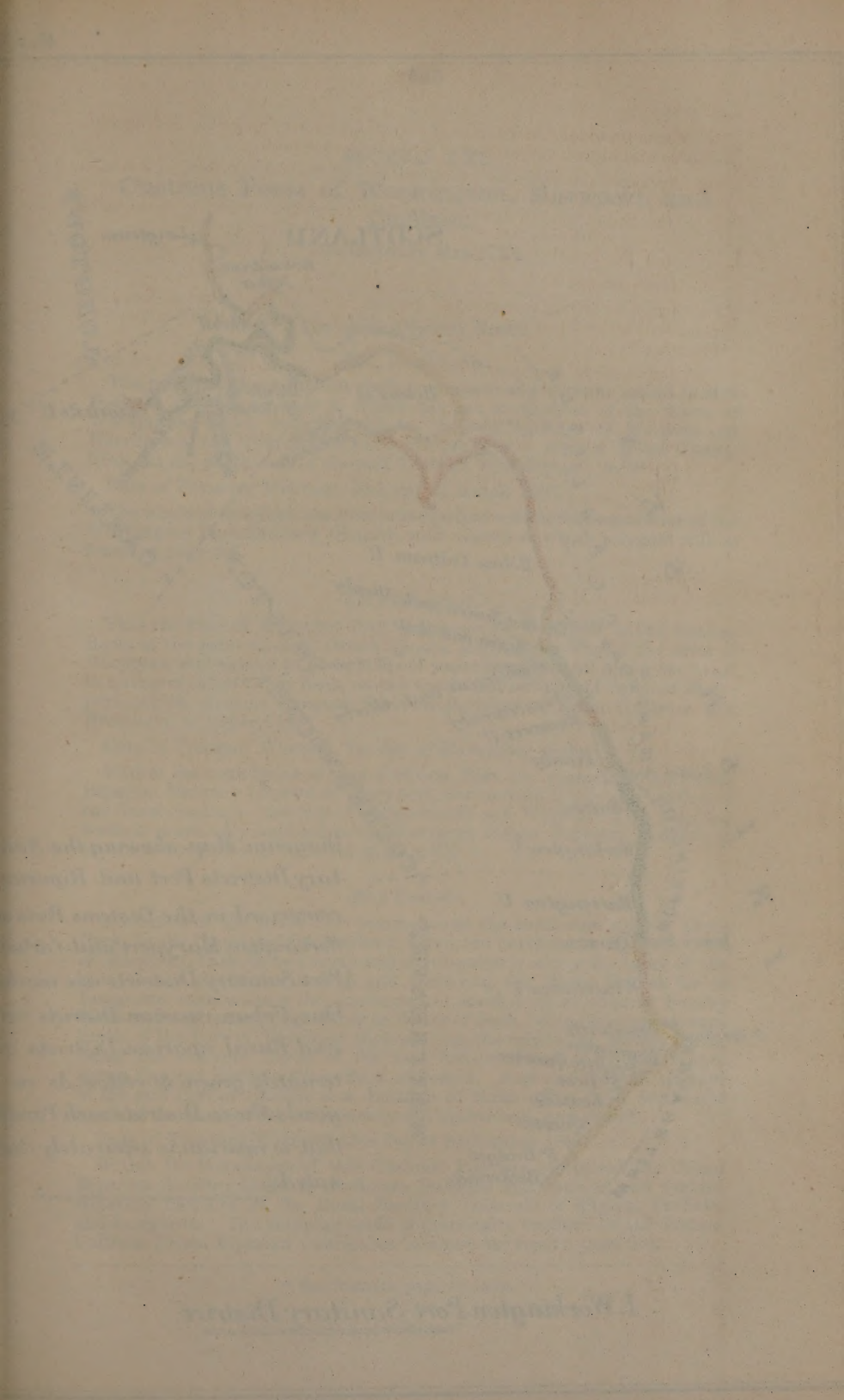
1. The adoption of regulations under section 125 of the Public Health Act, 1875.
2. The steps to be taken to secure, in case of need, the medical inspection of all vessels entering the district, whether by night or by day.

Verbal advice was also given as to the need for making arrangements beforehand for the disposal of the cholera dead.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

1. Regulations under section 125 of the Public Health Act have been adopted by this Urban Riparian Authority, and were approved by the Local Government Board on November 21st, 1894.

2. Immediate inspection of *all* vessels entering at the Port of Duddon both by day and by night, carried out by the officer appointed for the duty who is instructed to report to the Medical Officer of Health any case of disease or suspicion thereof. [Letter from the Sanitary Authority, dated November 20th, 1893.]



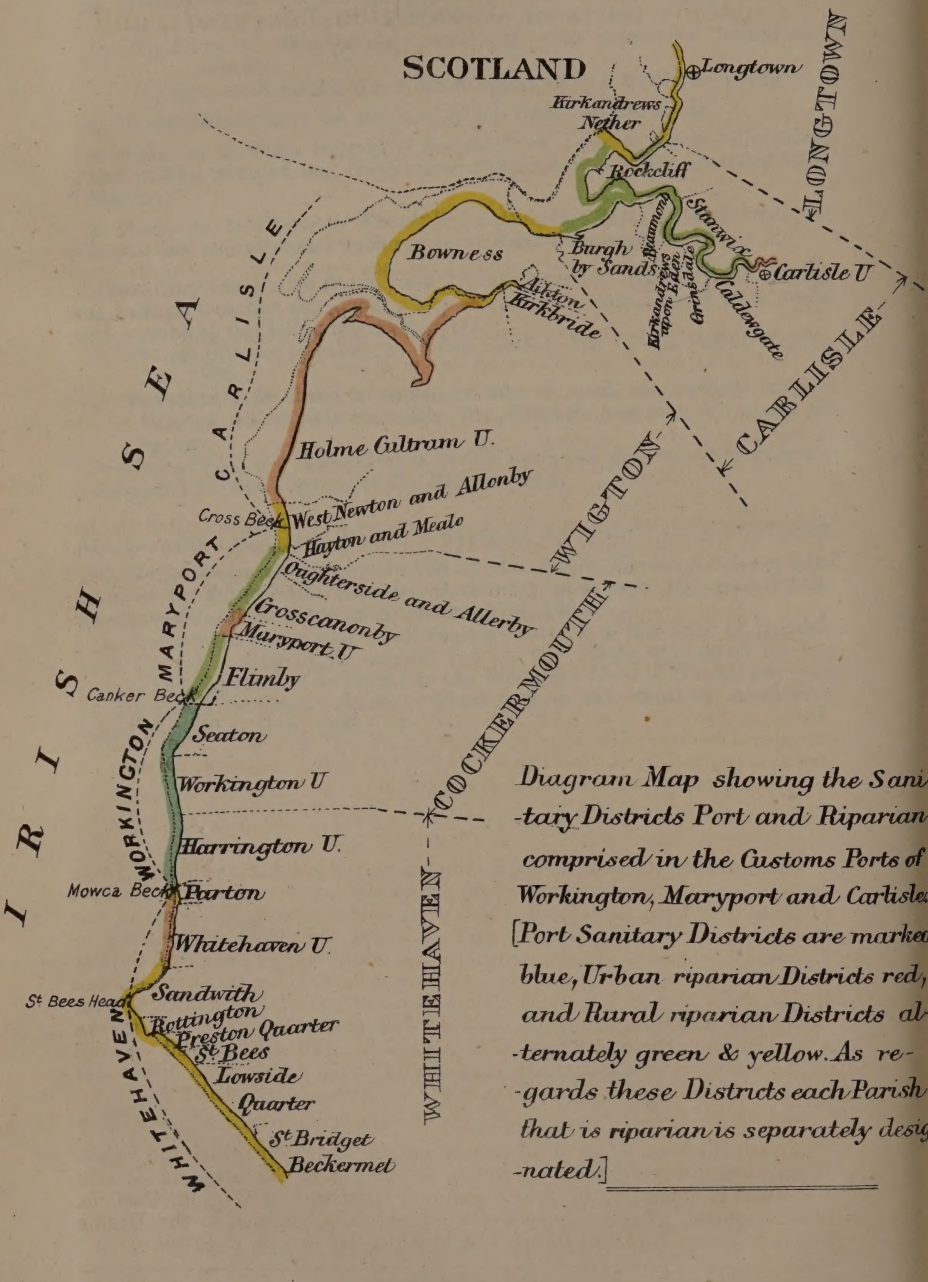


Diagram Map showing the Sani-tary Districts Port and Riparian comprised in the Customs Ports of Workington, Maryport and Carlisle. [Port Sanitary Districts are marked blue, Urban riparian Districts red, and Rural riparian Districts al-ternately green & yellow. As re-gards these Districts each Parish that is riparian is separately desig-nated.]

I. Workington Port Sanitary District.

Wyman & Sons, Lt.d, Lith.

SECTION XXI.

Customs Ports of Workington, Maryport, and Carlisle.

Illustrated in Map XXI.

LIMITS OF CUSTOMS PORTS.

(67.) *Workington.*

The limits of the said Port shall commence at a stream called Lowca Beck, at the point where it enters the sea south-west of the Town of Workington, which stream separates the two Parishes of Moresby and Harrington, and from thence along the coast to a stream called Canker Beck, on the north-east of the said Town of Workington; and*

Date of Treasury Warrant, 30th day of March 1850.

The whole of this Customs Port is comprised within the boundaries of the Workington Port Sanitary District, with regard to which a report will be found at page 644.

(68.) *Maryport.*

That the Port of Maryport shall commence at a stream called Canker Beck, at the point where it enters the sea, south-south-west of the town of Maryport, and extend to 10 fathoms of water seawards, all along the coast to a stream called Cross Beck, on the north-east of the said Town of Maryport, which streams separate the two Parishes of Holm Cultram and Bromfield, together with*

Date of Treasury Warrant, 1st day of November 1841.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary District of Maryport, and certain Riparian Parishes of the Rural Sanitary Districts of Cockermouth and Wigton. The shipping trade is practically confined to the Maryport Urban Riparian District, as to which a report will be found at page 650.

(69.) *Carlisle.*

The limits of the above Port commence at the north-east side of Cross Beck, in the County of Cumberland, being the northern limit of the Port of Maryport, from thence north and north-easterly along the coast of the said County of Cumberland to, and including, the River Esk, as far as Longtown, thence along the southern and south-western edge of Solway Moss to the entrance of the River or Water of Sark, being the south-eastern limits of the Port of Dumfries, thence along the middle of Solway Firth, being the southern limits of the said last-mentioned Port, and thence across the said Firth to Cross Beck aforesaid. And shall extend seaward of the said Port of Carlisle to a distance of three miles from low-water mark of the coast of the said County of Cumberland, and shall*

Date of Treasury Warrant, 13th day of September 1866.

Within the boundaries of this Customs Port are comprised the Urban Riparian Sanitary Districts of Holme Cultram and Carlisle, and certain Riparian Parishes of the Rural Sanitary Districts of Wigton, Carlisle, and Longtown. The shipping trade is practically confined to the Holme Cultram Urban Riparian District, as to which see report, page 654.

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* See footnote, page 78, *ante*.

Workington Port Sanitary District.

[Workington Customs Port (whole).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 22nd, 1893.

Date of Order *permanently* constituting Port Sanitary District: December 31st, 1887, as amended by order of July 26th, 1893.

1. *Constitution of Port Sanitary Authority:—*

The Port Sanitary Authority is a Joint Board, termed "The "Workington Port Sanitary Authority," composed of ten representative members, as follows:—
Workington Urban Sanitary Authority, six members.
Harrington Urban Sanitary Authority, two members.
Cockermouth Rural Sanitary Authority, two members.
The Port Sanitary Authority exercises Port functions in water abutting upon the Workington and Harrington Urban Sanitary Districts and the Cockermouth Rural Sanitary District.

2. *Limits of Jurisdiction:—*

The whole of the Port of Workington, which extends from Canker Beck on the North to Lowca Beck on the South.
These limits are satisfactory.

3. *Riparian Districts included* (wholly or in part) *in the Port Sanitary District:—*

Workington Urban Sanitary District.
Harrington Urban Sanitary District.
Cockermouth Rural Sanitary District. Township:—
Seaton.

4. *Apportionment of Expenses:—*

The Workington Urban Sanitary Authority and the Harrington Urban Sanitary Authority contribute in proportion to the rateable values of their Districts.
The Cockermouth Rural Sanitary Authority contributes in proportion to the rateable value of the township of Seaton.

5. *General Character and Efficiency of Administration:—*

This Port Sanitary Authority has not hitherto adequately equipped itself for carrying out its Port Sanitary functions. The Authority now, however, appears disposed to do so.

6. *Ports from whence Ships arrive.* (Ports or places (coastwise and foreign) with which the Port Sanitary District has most trade, or is in most frequent communication, are indicated by *italics*):—

Foreign.—*Bilbao, Cartagena, Antwerp.* Hamburg occasionally, also Rouen and Porman.

Some vessels come from the Baltic and Black Sea, but after touching at other English Ports.

Coastwise.—*Liverpool, Swansea, Cardiff, Newport, Dublin,* Belfast, Newry, Ballina, Glasgow, Drogheda, London. [No trade with Humber Ports.]

The above refers to the shipping of Workington Port. At Harrington there is no foreign shipping, and the coastwise trade is with the same Ports as that of Workington.

7. *Character of Trade.* (Imports, exports, rags, passengers, immigrants, transmigrants, &c.) :—

Foreign.—*Imports.* Iron ore, silver sand from Antwerp.
Exports. Pig iron, steel rails, tin bars, fishplates, coal.
Coastwise.—*Imports.* General merchandise. Coal (anthracite).
Exports. The same as for foreign.
No rags from foreign. No immigrants, transmigrants, or regular passengers from foreign. Occasional rags from Ireland.
There is passenger traffic with the Isle of Man.

8. *Amount of Shipping Inwards during three years,* 1890-91-92 :—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	7	3,714	2	1,005	2	1,129
Foreign { Sailing	2	226	1	256	—	—
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	9	3,940	3	1,261	2	1,129
Coastwise { Steamers	1,579	191,341	1,596	186,995	1,444	176,748
Coastwise { Sailing	—	—	—	—	—	—
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	1,579	191,341	1,596	186,995	1,444	176,748

There are also ten fishing boats on the register at Workington, employed solely in the Solway Firth within about three miles of the coast.

9. *Inland Water Communication :*—None.

10. *Lines of Railway conveying goods from Port :*—

The London and North-Western and Cleator and Workington Railways.

11. *Medical Officer of Health :* Isaac Clark Hodgson.

Qualifications :—M.B., C.M. Glasgow. Salary, 20*l.* a year, with repayment.
Character and efficiency of work done by Medical Officer of Health :—The Port Medical Officer of Health has made himself acquainted with the cholera orders, and is apparently prepared to carry them out efficiently.

12. *Inspector of Nuisances :* George T. Archibald.

No sanitary certificate. Salary 30*l.* a year, with repayment.
Character and efficiency of work done by Inspector of Nuisances :—
The Port Inspector of Nuisances, who is a chemist in the town, is an intelligent officer and takes an interest in his work, which

he appears to carry out efficiently. He has had some experience of the sea, and has acquired a knowledge of shipping.

13. *Nuisances :—*

Vessels intelligently inspected by the Port Inspector of Nuisances and nuisances dealt with when found. For statistics of inspection see the following table. From this return, however, it will be observed that the number of vessels inspected at the port is not large.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	7	—	—
		Sailing	2	—	—
		Fishing	—	—	—
		Total Foreign	9	—	—
	Coastwise.	Steamers	183	6	6
		Sailing	53	1	1
		Fishing	—	—	—
		Total Coastwise	236	7	7
1891	Foreign	Steamers	4	—	—
		Sailing	3	—	—
		Fishing	—	—	—
		Total Foreign	7	—	—
	Coastwise.	Steamers	113	—	—
		Sailing	78	4	4
		Fishing	—	—	—
		Total Coastwise	191	4	4
1892	Foreign	Steamers	12	—	—
		Sailing	—	—	—
		Fishing	—	—	—
		Total Foreign	12*	—	—
	Coastwise.	Steamers	99	4	4
		Sailing	73	—	—
		Fishing	—	—	—
		Total Coastwise	172	4	4

* It will be observed that this Return, which has been furnished by the Inspector of Nuisances, is not at first sight reconcileable with that of the Customs (see 8 above). Possibly foreign-going vessels which actually arrived coastwise have been classed by the Inspector of Nuisances as "foreign."

14. *Isolation Hospital:*

The Port Sanitary Authority possesses a small wooden hospital (erected in 1885) at the Merchants Quay, Workington. Its position is isolated and convenient. Patients would be landed from the river only a few yards distant. The hospital contains one ward, measuring 20′ × 10′; a second ward 16′ × 10′; and a kitchen 10′ × 10′, but there are no offices. There is no mortuary or laundry, and no drainage. Cholera excreta would be disinfected and buried or burnt. Water can be obtained from the town mains at the harbour. The hospital was unfurnished at the date of inspection. There is plenty of room for extension.

The Port Sanitary Authority possesses no ambulance or stretcher.

15. *Disinfecting Apparatus :—*

None.

16. *Mortuary :—*

None.

17. *Regulation under Section* 125, *Public Health Act*, 1875 :—

None made.

18. *Infectious Disease* (*Notification*) *Act*, 1889 :—

Not adopted by the Port Sanitary Authority.
In force in the Workington Urban Sanitary District.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations :—

There is no Customs Officer stationed at either of the places of debarkation (Workington and Harrington) in this district. Workington, however, is visited daily (11 till 1) by a Customs Officer from Maryport, and Harrington is visited once a month from Maryport. There is no foreign trade at Harrington, and it is stated by the Customs Authorities that they always know beforehand of the arrival at Workington of a vessel from foreign, and are there in time to meet her. Such vessels are boarded at the jetty on the north bank of the entrance to the River Derwent. There are no Coastguards either at Workington or Harrington, and coastwise vessels are only boarded occasionally when they chance to arrive during the visit of the Customs Officer.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots :—

The Customs Officer on meeting with an "infected" or "suspected vessel" would detain her at the new mooring station (see below) and send for the Port Medical Officer of Health.

There are a few men at Workington who act as Pilots, but they are not licensed and have received no instructions with regard to the detention of vessels, &c.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health :—

A special messenger would be sent. The telegraph and telephone are available from Harrington, but only during the daytime.

d. Means provided, or Facilities given, for conveyance of Medical Officer of Health to Ships:—

None.

e. Mooring Station:—

A mooring station was fixed at time of inspection in the open sea a little to the north of the entrance to the River Derwent and off Seaton Township. This is said to be good anchorage and perfectly safe in ordinary weather. The Port Inspector of Nuisances states that he has seen vessels ride there at anchor in the worst weather with safety. But, as it is undoubtedly exposed, it is to be understood that Masters of vessels are at liberty to run elsewhere for shelter if necessary for the safety of their ships (*but not otherwise*), provided that they signal their intention of doing so and their destination. The Port Sanitary Authority will then warn (by telegraph) the Sanitary Authority into whose district such vessels are about to go. Large vessels would probably run to Silloth Roads, but small vessels would take refuge in the River Derwent. This mooring station is within the Workington Port Sanitary District. Both the Collector of Customs at Maryport and the Officer who attends at Workington expressed their approval of this arrangement.

f. Inspection of Vessels ("infected" or from "infected port"):—

"Infected" vessels will at all times be boarded by the Port Medical Officer of Health, and during special danger of Cholera all vessels from "infected ports" will be similarly dealt with.

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

The Port Medical Officer of Health undertook to see the ships' articles and log, and to muster all hands and examine them systematically.

h. Address Book:—

Address book kept.

i. Special Isolation Provision for Cholera:—

Small wooden hospital at Merchants Quay, Workington (*see* 14 above).

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera:—

Such persons would be detained for observation either at the hospital or on board ship.

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

None.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods:—

(*a.*) Clothes would be burnt.

(*b.*) Sulphur fumigation and subsequent washing with carbolic acid solution.

(*c.*) None.

n. Arrangement made as to the Disposal of the Dead:—

None made.

o. Action as to Water Supply of Vessels from Infected Ports:—

Drinking-water will be ordered to be pumped out before entering the dock, tanks cleansed and lime washed, and fresh water supplied.

p. Action as to Bilges of Vessels from Infected Ports:—

Bilges will be ordered to be pumped out before entering the dock and cleansed with carbolic acid solution.

Final Conference with the Workington Port Sanitary Authority was held on September 22nd, 1893, when formal recommendations were made with regard to the following matters:—

1. The necessity for the regular and thorough inspection of vessels entering the port, and the advisability in this connexion of appointing an additional Inspector of Nuisances at Harrington.
2. The provision of increased hospital accommodation.
3. The provision of proper means for the conveyance by water of (*a*) the inspecting officers of the Authority, and (*b*) the sick.
4. The adoption of the Infectious Disease (Notification) Act, 1889.
5. The steps to be taken beforehand to secure, in the event of British ports becoming infected by cholera, the medical inspection of vessels entering the port coastwise as well as from foreign.

The Port Sanitary Authority was also advised by the Inspector to make arrangements beforehand for the burial of the cholera dead.

Action taken by the Port Sanitary Authority since Inspection.

In his Annual Report for the year 1893 the Port Medical Officer of Health refers to the Port Sanitary Authority as being, at the time of writing (January 1894), engaged in adding to the cholera hospital a kitchen fitted with a cooking stove, stoves for warming the existing wards and matron's room, two earth-closets, a both-room fitted with a movable bath, and a mortuary. He also states that "arrangements "have been made with the Dock Authorities whereby officers can be "furnished with a boat at any time to visit vessels and remove patients "to the hospital without delay"; that arrangements have been made for the burial of the cholera dead; that the Authority has given notice to adopt the Infectious Disease (Notification) Act, 1889; and that in the event of cholera obtaining a footing in any British ports with which either Workington or Harrington is in shipping communication, "vessels arriving coastwise from such ports will receive prompt attention," adding that arrangements for inspection of such vessels by night as well as by day could be made immediately if necessary.

The Infectious Disease (Notification) Act does not, however, appear yet to have been adopted by the Port Sanitary Authority. [September 1895.]

MARYPORT URBAN RIPARIAN SANITARY DISTRICT.

[Maryport Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 23rd, 1893.

1. *Sanitary Authority:*—The Trustees for the District and Harbour of Maryport acting as an Urban Sanitary Authority.

2. *Limits of Jurisdiction:*—From a point in a line with the northern boundary of the Roman Camp in the North to the boundary between the parishes of Dearham and Flimby in the South.

3. *Parishes of Sanitary District which are Riparian:*—Parish of Crosscanonby (part of). Parish of Dearham (part of the township of Ellenborough).

4. *General Character and Efficiency of Administration:*—The Urban Sanitary Authority has hitherto failed to equip itself for dealing with infectious diseases but at the time of inspection it appeared to appreciate the importance of doing so.

5. *Ports from whence Ships arrive.* (Ports or places (coastwise or foreign) with which Riparian District has most trade, or is in most frequent communication are printed in *italics*) :—

FOREIGN :—*Ergasteria* (Greece), *Cartagena*, Dunkirk, Rotterdam, Antwerp, Havre, Rouen, Bilbao, Algeria, Black Sea, Smyrna, Norway, Sweden, Finland, Canada, and Australia.

COASTWISE :—Belfast, Dublin, Londonderry, Dundalk, Drogheda, Liverpool, Bristol Channel (northern ports), Glasgow.

6. *Character of Trade:*—

FOREIGN :—*Imports:* Grain (from the Black Sea, Australia and and Canada), iron ore (from Greece and Spain), timber (from Canada and Baltic), tanner's extracts (from the Levant).

Exports: Steel rails, pig iron, coal.

COASTWISE :—*Imports:* Grain, hides, general merchandise, iron ore, coals, and coke.

Exports: Same as foreign.

7. *Amount of Shipping Inwards during three years,* 1890–91–92 :—

Class of Vessels.		1890.		1891.		1892.	
		Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign	Steamers	128	109,061	47	40,848	46	47,495
	Sailing	13	10,598	16	13,523	13	3,413
	Fishing	—	—	—	—	—	—
Total Foreign		141	119,659	63	54,371	59	50,908
Coastwise.	Steamers	1,232	192,455	1,180	167,258	1,116	185,412
	Sailing	—	—	—	—	—	—
	Fishing	—	—	—	—	—	—
Total Coastwise		1,232	192,455	1,180	167,258	1,116	185,412

There are 50 fishing boats on the register at Maryport which are employed solely in fishing in the Solway Firth within about 3 miles of the port, the tonnage of each averaging only two or three tons.

8. *Inland Water Communication:*—None.

9. *Railways conveying goods from Riparian District:*—Maryport and Carlisle and the London and North-Western Railways.

10. *Medical Officer of Health:*—William Henry Spurgin.

Qualifications :—M.R.C.S. Eng., L.S.A. Salary, 40*l.* a year with repayment.

Character and efficiency of Port work done by Medical Officer of Health :—The Medical Officer of Health is an active officer and acquainted with the Cholera Regulations. General character of work, good.

11. *Inspector of Nuisances* :—Robert Goodfellow.
Qualifications:—Certificate Sanitary Institute. Salary, 60*l.* per annum with repayment.

Mr. Goodfellow also acts as inspector of the recreation ground (10*l.* per annum).

Character and efficiency of Port work done by Inspector of Nuisances :—The Inspector of Nuisances apparently pays attention to the Port work and discharges his duties therewith in a satisfactory manner.

12. *Nuisances* :—Vessels said to be regularly inspected. See table below as to number. From this return however, it will be seen that there is a discrepancy between the figures of the Inspector of Nuisance and those of the Customs officer—the Inspector of Nuisances having apparently inspected more vessels from foreign than arrived at the Port. This was, seemingly, due to the fact that he had included as "foreign" vessels, which though coming from foreign, had called at other English ports on their way—such vessels being regarded as "coastwise" by the Customs.

INSPECTION OF SHIPPING IN 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers	131	None	None
		Sailing	12	"	"
		Fishing	—	—	—
		Total Foreign	143	—	—
	Coastwise.	Steamers	68	None	None
		Sailing	47	"	"
		Fishing	—	—	—
		Total Coastwise	115	—	—
1891	Foreign	Steamers	64	None	None
		Sailing	12	"	"
		Fishing	—	—	—
		Total Foreign	76	—	—
	Coastwise.	Steamers	23	None	None
		Sailing	37	"	"
		Fishing	—	—	—
		Total Coastwise	60	—	—
1892	Foreign	Steamers	99	2*	—
		Sailing	5	None	—
		Fishing	—	—	—
		Total Foreign	104	2	—
	Coastwise.	Steamers	38	None	None
		Sailing	63	"	"
		Fishing	—	—	—
		Total Coastwise	101	—	—

* Defects remedied on verbal notice being given to captain.

13. *Isolation Hospital.*—The Authority at the date of inspection was practically without any isolation accommodation, though some offices at the dock were available for use if necessary. These offices are conveniently situated and supplied with the town water, but have no drainage. They consist of two rooms, measuring 18′ 6″×18′×12′ and 11′ 6″×9′×12′ respectively.

The Urban Sanitary Authority was, however, proposing to erect a hospital without delay, and had forwarded plans to the Board with a view to inquiry for a loan. The Authority had arranged for the acquisition of a well isolated site just outside the town (south-west). On this site there is an apparently well-built house (containing two sitting rooms and kitchen, four bedrooms, and four attics), which it is proposed to use as an administrative building.

The Authority has no ambulance.

14. *Disinfecting Apparatus.*—None provided.

15. *Mortuary.*—There is a small mortuary near the offices at the docks, but another will be provided at the new hospital.

16. *Regulations under Section* 125, *Public Health Act*, 1875.—None made.

17. *Infectious Disease* (*Notification*) *Act*, 1889.—Adopted April, 1890.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—At the entrance to the Senhouse Dock. Large vessels could not be sent out on the same tide. As far as possible during danger of cholera, a Customs Officer goes out with the Medical Officer of Health to meet vessels from "infected ports" before they arrive at the boarding station. Customs Officers work on "24-hours system." Coasters boarded as time allows. The Customs have no boat.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coast-guard, and by Pilots.—"Infected" or "suspected vessels" would be detained, for 12 hours if necessary, for inspection by the Medical Officer of Health. If found to be "infected" at the boarding station, they would probably have to be detained in the dock. If met with outside, they would be kept at the mooring station.

No licensed Pilots at Maryport.

c. Arrangements for Communication between Officials detaining Vessels and Medical Officers of Health.—By special messenger.

d. Means provided, or Facilities given, for Conveyance of Medical Officer of Health to Ships.—The Urban Sanitary Authority's officers either use the harbour tug or hire a boat.

e. Mooring Station.—Mooring station fixed between 1 and 2½ miles off and slightly to the north of Maryport, with approval of Collector of Customs. It is within the Customs Port, and apparently just within the Urban Authority's jurisdiction. As the spot is somewhat exposed, masters of vessels would have to run elsewhere for shelter if actually necessary. It might be necessary to moor small vessels in the Senhouse Dock. Nevertheless the anchorage at the mooring station is said to be good holding and perfectly safe in ordinary weather. It is believed also to be safe in any weather.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health undertakes to inspect all "infected" vessels and all vessels from "infected ports." As far as possible the Customs Officers inform the Medical Officer of Health beforehand when vessels from "infected ports" are about to arrive, and the Medical Officer of Health goes out with the Customs Officer to meet them before they arrive at the harbour.

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health will examine the ships' articles and muster and examine all hands.

h. Address Book.—Address book not provided.

i. Special Isolation Provision for Cholera.—No satisfactory accommodation at date of inspection.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons would be detained for observation on board the vessel for 48 hours if necessary.

l. Means provided for Transfer of Infected Persons from Ship to Hospital.—None.

m. Arrangements made for Disinfection of (*a*) *Clothes,* (*b*) *Ship,* (*c*) *Goods.*—

(*a.*) None.
(*b.*) Sulphur fumigation. Corrosive sublimate solution for woodwork, and carbolic acid solution for iron.
(*c.*) None.

n. Arrangements as the Disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—Water to be pumped out before entering the dock or basin if possible, and tanks cleaned with permanganate of potash or lime.

p. Action as to Bilges of Vessels from Infected Ports.—Bilges to be pumped out before entering dock or basin if possible, and cleansed with carbolic acid solution.

Final Conference with the Maryport Urban Riparian Sanitary Authority was held on September 22nd, 1893, when formal recommendations were made with regard to the following matters:—

1. The provision of an efficient disinfecting apparatus.
2. The provision of proper means for the conveyance by water of the authority's inspecting officers, and of the sick.
3. The arrangements to be made to provide a proper water supply to vessels coming from infected ports.
4. The steps to be taken beforehand to ensure, in the event of any extension of cholera to British ports, the medical inspection of all vessels coming coastwise as well as from foreign.

Verbal advice was also given as to the desirability of making arrangements beforehand for the disposal of the cholera dead and as to other matters.

ACTION TAKEN BY URBAN RIPARIAN SANITARY AUTHORITY SINCE INSPECTION.

1. A steam disinfecting apparatus has been provided at the Authority's new isolation hospital, the latter being now completed. [Annual Report of the Medical Officer of Health for 1894.]
2. Two boats at the disposal of the Authority for the conveyance of inspecting officers, and a steam barge for the conveyance of the sick. [Letter from the Sanitary Authority, dated October 12th, 1893.]
3. Directions given for the purchase of barrels for conveyance of drinking water to vessels from infected ports. [Letter above referred to.]
4. Supervision of all vessels arriving coastwise from infected ports will be undertaken if necessary. [Letter above referred to.]

Steps being taken with a view to arranging for the burial of the cholera dead. [Letter above referred to.]

HOLME CULTRAM URBAN RIPARIAN DISTRICT.

[Carlisle Customs Port (part of).]

Inspector: Mr. T. W. Thompson. *Date of Inspection:* March 24th, 1893.

This Riparian District (Silloth) is under the jurisdiction of the Holme Cultram Urban Sanitary Authority. The coastline of the district extends from Cross Beck on the south to Angerton on the north.

Shipping Trade:—

FOREIGN.—*Mediterranean and Black Sea, Hamburg, Antwerp,* the Baltic, North and South America, Spain.

Imports.—Grain from the Mediterranean and North America; timber from Canada and the Baltic; sulphur ore from Spain; phosphate from Hamburg and Antwerp. No rags, passengers, immigrants, or trans-migrants.

Exports.—None.

COASTWISE.—*Liverpool* (daily), *Dublin,* Belfast, Newry, Welsh ports, Glasgow.

Imports.—General cargoes (American produce); passengers from Liverpool and Dublin; slates from Wales.

Exports.—Coal, manure.

AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890–91–92.

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers	8	7,214	10	7,527	9	9,729
Foreign { Sailing	13	5,599	6	3,917	16	7,560
Foreign { Fishing	—	—	—	—	—	—
Total Foreign	21	12,813	16	11,444	25	17,289
Coastwise { Steamers	527	83,215	529	86,413	562	88,459
Coastwise { Sailing	137	7,613	76	5,487	106	7,288
Coastwise { Fishing	—	—	—	—	—	—
Total Coastwise	664	90,828	605	91,900	668	95,747

There are 11 small fishing boats on the register, but they never go outside the port. Size from two to four tons.

Goods are conveyed from the district by the North British Railway.

Chief Facts reported as regards Administration.—The Urban Medical Officer of Health (Charles Macculloch, L.F.P.S.Glasg.*) is conversant with the cholera orders, and apparently prepared to carry them out. The Urban Inspector of Nuisances (Thomas Beckton) had not prior to the inspection carried out any inspection of vessels under the Public Health Acts.

The Urban Sanitary Authority has not erected any isolation hospital. It possesses a wooden hut, which it is proposed to erect on a convenient site, "if necessary." No ambulance, no disinfecting apparatus, and no mortuary have been provided.

The Sanitary Authority has not adopted the Infectious Disease (Notification) Act, 1889, nor has it drawn up any regulations under section 125 of the Public Health Act, 1875.

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* Since deceased. See footnote, next page.

ARRANGEMENTS MADE TO CARRY OUT THE BOARD'S CHOLERA ORDERS.

a. Customs Boarding Station or Stations.—At the pier head near the entrance to the dock. A vessel found to be "infected" there could not (if of any size) be sent out again without coming into the dock basin. During special danger of cholera the Customs Officer would endeavour to board vessels from foreign in the Roads, using the harbour tug for the purpose if available, or hiring a fishing boat. He always knows of the arrival of such vessels beforehand. Only one Customs Officer at the port. He is not supposed to be on duty at night, but he does board vessels from foreign at night as by day. He boards coasters in the dock as time allows.

b. Arrangements as to Detention of Vessels by Officers of Customs and Coastguard, and by Pilots.—If the Customs Officer met with an "infected" vessel in the Roads he would detain her at the Mooring Station until the Medical Officer of Health arrived. If he met with her at the dock he would detain her there.

There are three Pilots at Silloth, licensed by Trinity House. They have been asked by the Customs Officer to bring up any vessel with sickness on board at the mooring station and signal to him.

c. Arrangements for communication between Officials detaining Vessels and Medical Officer of Health.—The Customs Officer would telegraph during the day. At night he would send a special messenger on horseback, as the Medical Officer of Health lives at Abbey Town, some five miles distant.*

d. Means provided, or facilities given, for conveyance of Medical Officer of Health to Ships.—None. The Medical Officer of Health would probably be able to accompany the Customs Officer, or would be fetched by the boat which had taken out the Customs Officer. There is also a tug which could be hired if required.

e. Mooring Station.—In Silloth Channel, about two miles south-west of Silloth. It is within the Riparian District and the Carlisle Customs Port. It has been approved by the Officer of Customs at Silloth.

f. Inspection of Vessels ("infected" or from "infected port").—The Medical Officer of Health would inspect all "infected" vessels, and in the event of cholera becoming prevalent all vessels from "infected ports."

g. Examination of Persons on Vessels ("infected" or from "infected port").—The Medical Officer of Health would examine the ships' articles and muster and examine all hands.

h. Address Book.—None provided.

i. Special Isolation Provision for Cholera.—None in readiness at the date of inspection.

k. Arrangements for Isolation of Persons suspected to be suffering from Cholera.—Such persons would be detained on board ship.

l. Means provided for transfer of infected Persons from Ship to Hospital.—None. Patients would be brought to shore in the ship's boat. A stretcher will, it was stated, be provided.

m. Arrangements made for Disinfection of (a) Clothes, (b) Ship, (c) Goods.—

(*a.*) Cholera infected clothes would be burnt.
(*b.*) Sulphur fumigation and carbolic acid solution.
(*c.*) None.

n. Arrangements as to the Disposal of the Dead.—None made.

o. Action as to Water Supply of Vessels from Infected Ports.—Drinking water would be pumped out before entering the dock if possible, and tanks cleansed with permanganate of potash solution.

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* Owing to the death, during 1894, of Mr. Macculloch, Mr. C. H. Powers, L.R.C.P., who resides in Silloth, has been appointed Medical Officer of Health to this district.

p. Action as to Bilges of Vessels from Infected Ports.—Bilge water would be pumped out before entering dock if possible, and bilges cleansed with carbolic acid solution.

Final Conference with the Holme Cultram Urban Riparian Sanitary Authority was held on September 23rd, 1893, when formal recommendations were made with regard to the following matters :—

1. The necessity of securing the regular and thorough inspection of all vessels entering the district, with a view to the abatement of nuisances and unwholesome conditions generally.
2. The provision of proper and sufficient hospital accommodation, such provision to include a laundry and a mortuary.
3. The adoption of the Infectious Disease (Notification) Act, 1889.
4. The necessity of making arrangements for the delivery, by the Urban Sanitary Authority, of a proper supply of water for drinking and cooking purposes for the use of persons on board vessels coming from "infected ports."
5. The steps to be taken beforehand to secure, in the event of the extension of cholera to Great Britain, the medical inspection of all vessels entering the district.

Informal advise was also given with reference to arrangements for the disposal of the cholera dead and other matters.

Action taken by the Urban Riparian Sanitary Authority since Inspection.

A committee has been appointed by the Sanitary Authority to consider the desirability of erecting a hospital for the district. [Letter from the Sanitary Authority dated October 16th, 1893.] Several sites for a hospital have been considered, but no particular one at present decided upon. [Letter from the Urban District Council dated March 5th, 1895.]

The Infectious Disease (Notification) Act has been adopted, and came into force on April 7th, 1894. [Annual Report of the Medical Officer of Health for the year 1894.]

The remaining recommendations are stated to have been "carried out," but no specific information as to the action taken in regard to them has yet been received. [September 1895.]

ADDENDUM A.

Report on certain Circumstances connected with the Manchester Ship Canal; by Dr. Bruce Low.

The completion of the Manchester Ship Canal, and its opening for traffic on January 1st, 1894, had the effect of bringing certain inland districts directly into communication with foreign ports, through sea-going vessels which are now able to pass up the Ship Canal to its terminus at Salford and Manchester. In view of the late threatened invasion of this country by cholera by means of shipping from infected places abroad, it was thought advisable to collect information, for the Board's purposes, as to the canal and its circumstances; and, as I was about to inspect in connexion with the Cholera Survey a number of districts in this part of the country, the duty of collecting the required information was assigned to me.

My visits to the Ship Canal and to the adjoining Sanitary Districts were made during part of November and December of last year (1894).

Brief Description of the Canal.

The Ship Canal extends a total distance of 35½ miles; namely, from Manchester to Eastham on the shores of the estuary of the Mersey. For the first 7 or 8 miles the canal is practically a canalisation of the River Irwell. Just below Irlam Locks, and about 7½ miles west of Manchester, the River Mersey flows into the canal, and for some distance the water-way is the straightened channel of the Mersey. At Rixton (*see* appended Map No. 2) the course of the canal deviates from the old bed of the Mersey and passes in an almost straight line as far as Runcorn, from which place to Eastham the canal is continued westward close along the shore of the estuary of the Mersey for a distance of about 13 miles. To counter-balance the gradient, amounting to a fall of 60 feet from Manchester to Latchford (which is close to the borough of Warrington), there have been constructed four sets of locks viz.:—

Modewheel Locks, 1¾ miles from Manchester, fall 13 feet.
Barton Locks, 5 miles from Manchester, fall 15 feet.
Irlam Locks, 7 miles from Manchester, fall 16 feet.
Latchford Locks, 14½ miles from Manchester, fall 16 feet.

From Latchford Locks to its westward extremity at Eastham, a distance of 21 miles, the canal is subject to a certain extent to tidal influence. This portion of the Ship Canal is maintained at a level of 9 feet 6 inches above mean tide level. When the tide rises above this level it flows into, and subsequently out of, the canal over three tidal weirs and three sets of sluices.

The Ship Canal has a uniform depth of 26 feet, its bottom width is never less than 120 feet, and the width at the surface is 172 feet or more. At the locks and dock entrances the canal is considerably wider; for example, from Manchester to Barton, a distance of four miles, the surface width is 230 feet, and the bottom width 170 feet. This width is further increased at the entrance to the Salford Docks.

Sanitary Districts abutting on the Canal.

In its course from Manchester to Eastham the Ship Canal has relations with 13 Sanitary Districts. In the following Table I., I have placed the name of each of these 13 Sanitary Districts, with its area, population, and rateable value. The position of each district can be seen on one or other of the appended maps numbered 1, 2, and 3.

TABLE I.

Sanitary Districts.	Area in Acres.	Population, 1891.	Rateable Value, 1894.
			£
1. The City of Manchester - - -	12,911	505,368	2,810,005
2. The County Borough of Salford - -	5,171	198,139	821,851
3. The Borough of Eccles - - -	2,032	29,633	118,300
4. The Urban District of Stretford - -	3,255	21,751	131,224
5. The Rural District of Barton-on-Irwell* -	6,856	7,159	64,521
6. The Urban District of Irlam - -	4,529	4,653	15,930
7. The Rural District of Altrincham -	62,307	29,245	237,465
8. The Urban District of Lymm - -	4,375	4,995	18,459
9. The Rural District of Warrington -	23,681	12,783	105,563
10. The Rural District of Runcorn - -	45,923	22,467	168,921
11. The Urban District of Runcorn - -	1,179	20,050	58,000
12. The Rural District of Chester - -	35,377	10,824	103,116
13. The Rural District of Wirral - -	36,626	18,251	69,062

* The Rural District of Barton-on-Irwell has quite recently been reduced in area and population by the formation, within its boundaries, of three urban districts viz.: Urmston, Irlam, and Worsley only one of which, Irlam, is riparian. These changes have reduced the area of the Barton Rural District from 17,970 acres to 6,856; its population from 26,890 to 7,159; and its rateable value from 163,071*l.* to 64,521*l.*

DOCKS AND QUAYS ON THE CANAL.

The "Manchester Docks" are situated almost entirely in the Urban District of Stretford. These docks comprise 33½ acres of water, 23 acres of quay area, and 1¾ miles of quay length. The four dock-basins, numbered respectively 1, 2, 3, and 4, are situated on the southern side of the Ship Canal. A little lower down and on the north side of the Canal are the Salford Docks, Nos, 5, 6, 7, and 8. These have a water area of 71 acres, a quay area of 129 acres, and a quay length of 3½ miles. The total area at the terminus of the Ship Canal covered by docks and quays amounts to 256 acres; and the total length of quays 5¼ miles.

At Runcorn (in the Runcorn Urban District), at Weston Point (in the Runcorn Rural District), and at Ellesmere Port (in the Wirral Rural District) there are also docks. In addition there are several "lay-byes," as, for example, near Runcorn, where ships can be moored alongside the canal bank for loading or unloading. There exist, also, wharves at various places along the canal where vessels can be loaded or unloaded. Just below Irlam Locks, for example, and situated in the Barton Rural District, where some works are being erected, a wharf is being constructed where steamers can discharge or load. With the development of shipping in connexion with the canal, and the erection of works of various kinds close to the banks of the canal, it is not unlikely that other wharves or quays will be constructed.

At Partington, about 27 miles east of Eastham and about 9 west of Manchester, there have been erected on either side of the canal "patent hoists" for the rapid loading of large ocean-going vessels with coal. Complete provision at present exists here for loading at one and the same time four vessels with coal, two on either side of the canal. It is contemplated to increase this provision so that six vessels may be loaded at once. Vessels do not arrive here directly from "foreign." At present the vessels which arrive at Partington for coaling, have already discharged their cargoes either at Liverpool or at Manchester;

they then come to Partington to fill their bunkers with coal for the next voyage or to load a cargo of coal. I am informed that the number of vessels which coal at Partington is about 30 per month, but it is expected that this will be largely increased before long.* That part of Partington Basin situated on the north side of the canal is in the Irlam Urban District, and is in Lancashire; that on the south side is in the Altrincham Rural District, and is in Cheshire. When completed, the Partington Coaling Basin will comprise 20 acres of quay area, 5½ acres of quay area, and half a mile of quay length.

The borough of Warrington has not at present any direct connexion with the Ship Canal although it is situated near to it. The scheme for constructing the Ship Canal provided for docks adjoining Warrington having a total area of 23 acres, and a quay area of 7 acres, and a quay length of about three quarters of a mile. When, therefore, these docks and quays have been completed the borough of Warrington will have to be included among the sanitary districts having riparian relation to the Ship Canal. Apart, however, from the canal, small vessels can come up the Mersey to Warrington. A scheme to extend the borough boundary is, I am informed, under the consideration of the Warrington Corporation, and if this be carried out, the town will then be in definite relation with the canal. The present area of the borough of Warrington is 2,004 acres, the population at the last census was 52,743, the rateable value in 1894 was 174,000*l.*†

The Customs Port of Manchester.

On January 1st, 1894, the Lords Commissioners of Her Majesty's Treasury, under the Customs Consolidation Act of 1876, constituted the Port of Manchester in terms as follows:—"The port shall commence at "the eastern termination of the port of Liverpool; that is to say, at "an imaginary straight line across the River Mersey from Dungeon "Point on the Lancashire shore to Ince Ferry on the Cheshire shore, "and shall include the River Mersey above the said line, and the River "Irwell so far as the same are navigable, and the River Weaver to "Frodsham Bridge, and shall include the Manchester Ship Canal from "the entrance thereof at Eastham, in the county of Chester (where it "touches the Port of Liverpool), to Hunt's Bank, in the city and "parish of Manchester, with all channels, havens, streams, creeks, "cuts, and docks within the limits aforesaid."

This Treasury warrant, a copy of which is appended to this report (*see* Addendum No. 1.), at the same time defined the limits of the Customs Port of Liverpool, and also declared Runcorn to be no longer a port.

Trade of the Port.—The shipping inwards in the Manchester Port is divided among three chief sets of docks, viz.:—

1. Manchester Docks, which include the docks and quays at the termination of the canal, viz., in Manchester, Stretford, and Salford Urban Districts.
2. Runcorn Docks, which include Weston Point, in the Runcorn Urban and Rural Districts.
3. Ellesmere Port, in the Wirral Rural district.

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* Recently one large steamer left Partington with a cargo of coal amounting to 5,200 tons.

† The Rural District of Warrington has recently had taken from it the following parishes, viz., Latchford (Without), population 440, Grappenhall, 984, and Thelwall, 770. These three parishes, which are situated in Cheshire, have been transferred by an Order of the Local Government Board to the Rural District of Runcorn. This reduces the population of the Warrington Rural District by 2,194, and increases that of the Runcorn Rural District by the same amount.

Through the courtesy of Mr. H. Ellis, Collector of Customs at Manchester, and of Mr. D. Dunglinson, his assistant, I am able to give the number of vessels arriving from foreign and coastwise, with the tonnage of such vessels, for the 12 months ending December 31st, 1894.

Mr. H. Ellis has also favoured me with a return showing generally the foreign countries from which ships chiefly arrive, the number of such vessels, and the nature of the cargoes for each of the three sets of docks above named.

Manchester Customs Port.

Table II.

Showing Shipping Inwards to the Port of Manchester from January 1st to December 31st, 1894.

		Manchester.		Runcorn.		Ellesmere Port.		Totals.	
		No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Foreign	Steamers	458	230,680	75	18,420	7	2,031	540	251,131
	Sailing	44	19,697	96	45,680	4	710	144	66,087
	Fishing	—	—	—	—	—	—	—	—
Total Foreign		502	250,377	171	64,100	11	2,741	684	317,218
Coastwise	Steamers	666	189,450	1,056	90,405	98	5,544	1,820	285,399
	Sailing	47	4,289	2,020	161,598	81	6,749	2,148	172,636
	Fishing	3	138	—	—	—	—	3	138
Total Coastwise		716	193,877	3,076	252,003	179	12,293	3,971	458,173

Table III.

Statement showing Countries from which Vessels in the Foreign Trade have arrived, from 1st January to 31st December 1894.

Manchester District.

Countries from which arrived.	Number of Vessels (Steamers and Sailing).	Cargoes.
France	108	Sugar, wines, fruits, and general cargoes.
Holland	106	General cargoes.
Belgium	52	Do. do.
Germany	44	Do. do.
Spain	41	Fruit and iron ore.
United States	21	Cotton, timber, and general cargoes.
Other countries including "the Mediterranean," "the Baltic," South America, &c.	130	Timber, pulpwood, grain, fruit, logwood, and general cargoes.
	502	

Runcorn District.

Countries from which arrived.	Steamers.	Sailing Vessels.	Cargoes.
Brazil	—	16	Bone ash.
Channel Islands	5	12	China stone.
France	63	15	Flints.
Germany	—	7	Waste salt.
North American Colonies	—	37	Timber.
Norway	1	4	Felspar.
Spain	4	—	Ore.
Sweden	—	1	Timber.
United States	1	1	Timber.
Other countries	1	3	Wheat and logwood.
	75	96	

Ellesmere Port.

Countries from which arrived.	Steamer.	Sailing.	Cargoes.
Belgium	1	—	Water ballast.
France	6	3	Flints and chalk.
North America	—	1	Wheat.
	7	4	

The former Customs Port of Runcorn, which is now merged in the Customs Port of Manchester, comprised the docks situate on the Mersey at Runcorn, Weston Point and Saltport, Widnes, Warrington,* and Northwich.

The following tables (supplied by the Superintendent of Customs at Runcorn, Mr. J. H. Hamilton) give the amount of shipping, coastwise and foreign, in each of the places that were comprised in the Port of Runcorn for each of the three years 1890, 1891, and 1892.

Port of Runcorn.

Table IV.

Return of Total Vessels and Tonnage for the Port of Runcorn during each of the Three Years 1890, 1891, and 1892.

Year.	Runcorn.		Weston Point and Saltport.		Widnes.		Warrington.		Northwich.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1890	2,175	187,555	875	77,917	1,261	82,569	23	1,300	12	630	4,346	349,971
1891	1,904	158,183	989	84,162	1,269	77,789	29	1,605	14	873	4,205	322,612
1892	838	77,157	1,643	162,115	1,171	72,233	38	2,432	10	620	3,700	314,557

* The Mersey is navigable for small vessels as far up as Warrington.

Port of Runcorn.

Table V.

Return showing Number of Vessels and their Tonnage arriving Coastwise for each of the Three Years 1890, 1891, and 1892.

Year.	Runcorn.		Weston Point and Saltport.		Widnes.		Warrington.		Northwich.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1890 - -	2,073	172,049	815	68,609	1,261	82,569	23	1,300	12	630	4,184	325,157
1891 - -	1,823	146,660	940	77,651	1,269	77,789	29	1,605	11	644	4,072	304,349
1892 - -	781	66,873	1,545	137,301	1,171	72,233	38	2,432	10	620	3,545	279,459

Port of Runcorn.

Table VI.

Return showing Number of Vessels and their Tonnage arriving from Foreign during each of the Three Years 1890, 1891, and 1892.

Year.	Runcorn.		Weston Point and Saltport.		Widnes.*		Warrington.		Northwich.		Totals.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1890 - -	101	15,475	60	9,308	—	—	—	—	—	—	161	24,783
1891 - -	81	11,349	49	6,511	—	—	—	—	3	227	133	18,087
1892 - -	57	10,284	96	24,393	—	—	—	—	—	—	153	34,677

* Foreign vessels have been allowed to discharge at Widnes by special permission, but none have arrived during the three years 1891, 1892, and 1893.

The above tables give some idea of the amount of shipping arriving prior to the opening of the Ship Canal at these different places, situated in the lower waters of what is now the Manchester Customs Port. Some disturbance of trade took place during the construction of that section of the Ship Canal which passes through Runcorn. And as Runcorn Docks were closed in the latter part of 1892, the shipping usually arriving at Runcorn was thereafter transferred to Weston Point. With the completion of the canal, the shipping trade has to some extent further shifted, and probably that of Runcorn may become less than previously.

Sanitary Administration as regards the Port.—All vessels arriving in the Mersey for the Port of Manchester are boarded by the Liverpool Customs Officers between Tranmere Ferry and Bromborough Pool, *i.e.*, outside the Ship Canal altogether. This boarding station is within the limits of the Liverpool Port Sanitary Authority. In existing circumstances and under the Board's Cholera Order of 28th August 1890, the fact of cholera being found on any Manchester ship boarded here would be communicated at once to the Liverpool Port Medical Officer, with a view to the vessel being sent to the mooring station of the Liverpool Port Sanitary Authority at Bromborough Pool. Vessels with suspicious cases on board would be detained by the Liverpool Customs till the

Medical Officer of the Liverpool Port Sanitary Authority had examined them. Vessels bound into the Canal, and having on board infectious illness other than cholera, plague, and yellow fever, would be allowed by the Liverpool Customs to proceed to their destination within the Canal, the local Sanitary Authority of the district where the cargoes were to be discharged being meanwhile duly apprized by telegraph. At present there is no single Port Sanitary Authority empowered to deal with outbreaks of infectious illness occurring in vessels anywhere within the Ship Canal. It is therefore foreseen that, as vessels discharge at more than one point within the Ship Canal, viz., at Salford, Manchester, Stretford, and elsewhere, conflict may arise as to the authority responsible for dealing with infectious cases thus arising in the Manchester Customs Port. Conflict of this sort would no doubt be obviated by the constitution of a Port Sanitary Authority for the Port of Manchester. Also, it has been foreseen that in times when cholera is prevalent in the North European ports or elsewhere, vessels may, though free from the disease when boarded by the Liverpool Customs in the Mersey, convey, under certain circumstances, the contagion of cholera up the Canal to Manchester, Salford, or Stretford. Hence the Corporation of the City of Manchester and the Corporation of the County Borough of Salford have each, separately, sent memorials to the Local Government Board, for appointment of a Port Sanitary Authority, to have jurisdiction over the Ship Canal. Representations upon this subject have also been made to the Board by the Stretford Urban District Council.

Meanwhile inspection of shipping is not carried out in the docks within the Canal, nor does there exist any accommodation for cases of infectious disease arising on shipboard, beyond that provided for certain of the riparian sanitary districts concerned. The Corporation of Manchester have a large isolation hospital at Monsall; and to this hospital the Urban District Council of Stretford are entitled to send their infectious cases upon certain terms. But this agreement terminates in June 1895, and if not renewed Stretford will have to make separate provision for itself. Salford has a well-equipped isolation hospital at Modewheel, close to the Canal. To this hospital the Borough of Eccles, a riparian district which adjoins Salford, sends its infectious cases by arrangement. The Urban District of Runcorn has a small isolation hospital, but it would hardly be available for cases beyond those occurring in the town of Runcorn. Practically the other riparian authorities have either no hospital accommodation, or such as would not conveniently serve for cases brought from the shipping. The boroughs of Widnes and Warrington have each a sanatorium for their infectious cases.

Pollutions of the Ship Canal.

The Ship Canal at its upper part is fed by the waters of the River Irwell, and lower down by the River Mersey. There are some smaller streams, like the Bollin and the Glaze Brook, which also flow direct into the Canal. The Irwell and the Mersey, along with their tributaries, serve for the natural drainage of a considerable portion of Lancashire and Cheshire and smaller portions of Derbyshire and Yorkshire. The watersheds of these two rivers are densely populated for the most part, and numerous industries are carried on close to the banks of the streams.

Since the cutting of the Ship Canal and the construction of locks in its course, the rate of flow of the water, which used to pass off by the old channel of the Irwell, has been much reduced. Especially is this the case in the upper portion of the Canal. To some extent each section of the Canal included between locks has become practically a

lake or elongated pool, in which the current is small and the opportunity for subsidence of suspended impurities great. The two rivers, the Irwell and the Mersey, now discharging their waters by way of the Ship Canal are under the jurisdiction of the Mersey and Irwell Joint Committee, originally constituted by a Provisional Order made by the Local Government Board under section 14 of the Local Government Act, 1888, and confirmed by the 54 & 55 Vict. c. lxxi. The powers of this Joint Committee were enlarged by the Mersey and Irwell Joint Committee Act, 1892 (55 & 56 Vict. c. cxci.).

The area of the watershed under the supervision of the Joint Committee has a population resident in it amounting to *over two millions*. The following is a brief summary of the populations in the above-mentioned areas:—

—	Population.
Seven County Boroughs - - - - -	1,148,669
Eleven Non-county Boroughs - - - - -	294,277
Fifty-six Urban Districts - - - - -	604,259
Nine Rural Districts - - - - -	147,659
Total - - - -	2,194,864

The seven county boroughs included above are Manchester, Salford, Bolton, Bury, Rochdale, Oldham, and Stockport. All of them are, with the exception of Stockport, situated in the watershed of the Irwell.

From the watershed occupied by this large population, the two rivers and their tributaries have in the past carried away, towards the sea, the crude sewage and certain trade effluents. Up to recent times, there have been formed, in the beds of the streams at one or another place, banks of black mud, emitting in hot weather offensive smells. These banks became shifted lower down the river channels by each flood or rain storm which scoured out and flushed the beds of the streams, but new banks formed again after the old had been swept away. The foul condition of the Irwell and the Mersey has been a matter of common knowledge for a number of years.

The Joint Committee has a staff of six inspectors, the chief of whom is R. A. Tatton, Esq., M.I.C.E., to whom I am indebted for a good deal of information embodied in this report, as well as for cordial assistance in my inquiries.

The polluting matters are classed under three heads, viz.:—

1. Solid matters, *e.g.*, due to cinder tipping and "sludging."
2. Liquid sewage.
3. Liquid manufacturing refuse.

1. *Pollution of the Irwell and Mersey and their Tributaries by solid matters.*—Formerly it was a common custom in this part of the country to deposit cinders and other solid rubbish on the banks of a stream, there to remain until a flood removed them. "Sludging" is the clearing out of the solid refuse which collects in "mill lodges." Since the appointment of the Joint Committee, progress, I am informed, has been made in dealing with the various sources of pollution, especially by solid refuse, of the two rivers and their tributaries. Cinders and sludge have no longer been deposited to the extent formerly the case on the banks of these streams.

2. *Pollution of the Rivers by liquid sewage.*—The Irwell and its tributaries, the Medlock, the Irk, &c., have been receiving for many years the crude sewage of Manchester and of adjacent thickly-populated areas, as well as of the boroughs and urban districts higher up. Similarly, the Mersey has received the untreated sewage of Stockport and other manufacturing towns situated upon its banks, or on those of its tributaries. These rivers have been spoken of in the past as "open sewers." Since the constitution of the Joint Committee, some progress has been made as regards the construction of intercepting sewers, and of sewage outfall works for treating the sewage before it is discharged into the streams. I append a diagram, *see* Addendum No. 5, prepared by Mr. Tatton, and taken from a report presented by him to the Joint Committee in October 1894, showing the progress made in riparian districts as to sewage works since 1892. At the present time pressure is being made, by legal proceedings and in other ways, upon the various sanitary authorities who have not as yet dealt with their sewage in a satisfactory manner.

At the present time *Manchester* has provided intercepting sewers to convey the sewage, roughly speaking, of about three-fifths of its population to works at Davyhulme, near the canal, where, after precipitation by lime, the sludge is pressed and dried, and the effluent is run upon land, prior to discharge into the Ship Canal just below Barton Locks. This effluent was recently regarded by the advisers of the Joint Committee as unsatisfactory, and it is said to have had a putrescent smell. While at Manchester I was informed that the Corporation had obtained, or were obtaining, more land to be employed for the treatment of the effluent, before it passed into the Ship Canal. The intercepting sewers required for the remainder of the city are, I am told, about to be constructed, but meanwhile crude untreated sewage from part of Manchester finds its way into the Irwell or its tributaries.

The sewage of *Salford* is conveyed to works situated close to the Ship Canal at Modewheel. For the last two years the Salford Corporation have been making experiments as to various methods of treating their crude sewage. Up to the date of my visit no less than 26 different methods had been tried without any decision having been arrived at as to their respective merits. Precipitation by lime, settling the sludge in tanks, and allowing the effluent to run into the Canal, was the system in vogue at the time I visited Salford. The Salford outfall is situated between the Modewheel (the first) Locks, and Barton (the second) Locks of the Ship Canal. Large accumulations of black sludge had taken place at Modewheel upon the 33 acres of land comprised in the sewage works. The accumulations of this foul sludge had at last become so great that the Corporation were having built for them a steamer to carry at each trip, down the Canal and out to sea, 600 tons of the sludge. Complaints had been made that the sewage effluent was unsatisfactory; that it had a putrescent smell; that it contained an excess of lime; and that this excess of lime, meeting with other sewage impurities in the waters of the Canal, caused precipitation of such matters, and the formation of a sludge bank in the Canal below the outfall. A large amount of trade effluents passes into the Salford sewers, and adds to the difficulties of treating the sewage. At the time I visited the locality, the Joint Committee had been threatening to proceed against the Salford Corporation for polluting the Canal. Proceedings were thereafter instituted, the matter being tried recently in the Manchester County Court, and his Honour Judge Parry gave judgment on February 7th, 1895. The action was against the Salford Corporation for having caused solid or liquid sewage matter to flow

from their sewage works at Modewheel into the River Irwell and the Ship Canal. The Judge held that it had been proved that the Salford Corporation had poured sewage matter into the canal and were not using the best practicable and available means to render the sewage matter harmless. But on the legal question that had been raised in the form of an objection to the jurisdiction of the Joint Committee in the matter, he decided against the Joint Committee. Their powers, he held, were confined to "certain portions of the River Mersey, or any tributary "thereof, and to certain portions of the River Irwell, or any tributary "thereof"—a description which could not, he considered, be said to cover the Ship Canal. The Canal, he said, was not the River Irwell as had been contended. This interpretation, which he put upon the Act, need not, he held, cause any failure of justice; for not only the Lancashire County Council but other local bodies had a right to bring an action against the Corporation, and must have succeeded had they done so. He further ordered each party to pay its own costs, remarking that the time of the court had been taken up in trying issues which had been decided against the Corporation of Salford, and which the Corporation ought never to have disputed. Counsel for the Joint Committee gave notice of appeal. This appeal was heard in the Queen's Bench on May 16th, 1895, before the Lord Chief Justice and Mr. Justice Charles, who held that the County Court Judge was wrong in his judgment as to the Ship Canal not being included In the waters of the Irwell and Mersey; the appeal was therefore allowed.

Immediately below the Salford outfall works and just above the Barton Locks, are situated the sewage works of the *Eccles Corporation.* Land, amounting to 76 acres, has been acquired by that authority, and was being laid out at the time of my visit as a sewage farm. The sewage will, first of all, be precipitated by lime, and the effluent will then be treated on the land by downward intermittent filtration. The crude sewage was, meanwhile, when I visited the works, being discharged into a brook which ultimately falls into the Ship Canal.

Still lower down the Canal, and situated on the south side of it just below the Irlam Locks, is a sewage farm, belonging to the *Barton-on-Irwell Rural District* and to the *Urmston Urban District.* On this farm the sewage of a population of 7,000 persons is dealt with. It comprises 15 acres of land. The sewage is roughly screened and precipitated by "alumino-ferric"; the effluent is treated by downward intermittent filtration and ultimately discharged into the canal. Still lower down is a sewage farm in course of preparation for the new *Urban District of Irlam*, population about 5000. Irlam is on the north bank of the canal, just below Irlam Locks.

The above comprise the chief sewage effluents passing into the waters of the upper part of the Ship Canal.

In this connexion I append a report (Addendum No. 2), by Sir Henry Roscoe, the Joint Committee's scientific adviser, in which, under date of November 1894, some of these different effluents are discussed; and I append also two tables, one for September, and one for October, showing certain facts as to some effluents by Mr. Scudder, assistant to Sir Henry Roscoe, and a third table giving the results of analysis of Ship Canal water and of several sewage effluents for September 1894 (Addendum No. 3). A diagram chart (Addendum No. 4) is also appended, showing results of these analyses.

3. *Liquid Manufacturing Refuse.*—The appearance of the water of the Ship Canal at its upper part is at once suggestive of considerable pollution by trade refuse matters. This refuse is poured into the tributary

streams by print works, dye works, bleach works, paper works, tanneries and leather dressing works, fellmonger's works, woollen factories, soap works, chemical works, breweries, and several other unclassified industries. Steps are being taken by the Joint Committee to ensure that trade refuse shall be satisfactorily dealt with in one way or another before it is turned into streams. I am informed that manufacturers upon the whole have shown themselves disposed to deal with their effluents in a satisfactory manner; and there has been, it appears, an absence of combined opposition to the action of the Joint Committee in their efforts to improve the condition of the rivers under their care. In dealing with this question the Committee have the advice and assistance of Sir Henry Roscoe, in whom it appears the manufacturers have complete confidence that he will deal impartially with each case, and that he will not make the requirements more severe than is necessary to obtain that purification of the rivers which the Joint Committee have in view.

At the time of my visit, the water in the Ship Canal at Manchester and Salford was dark in colour. In the docks, I saw a considerable amount of foul-looking scum floating about like dirty soap suds upon the surface of the water. Innumerable bubbles of gas were rising and bursting on the surface, though the weather was cold and wintry. It is stated that these bursting bubbles of gas are always to be seen on the surface of the water in the upper part of the Ship Canal whatever the circumstances of weather. In addition to the floating scum, I noticed that at times masses of black flocculent matter about six to twelve inches in diameter rose to the surface, apparently carried up by the gases escaping from the bottom of the canal. These masses floated on the surface and drifted into sheltered corners of the docks, where also I observed the floating bodies of dead dogs and cats, as also discarded mattresses and the like which had apparently been cast into the canal to be got rid of.

My inspection of the localities adjoining the Ship Canal was made during cold weather: I did not therefore personally observe any marked fouling of the atmosphere near the canal by fœtid emanations from the polluted waters. But from medical men and others, whom I questioned on the point, I learned that during the summer months, smells from the canal, especially in its upper portions and in the docks, had been very obnoxious. One medical man compared the smell on a summer's day to that caused by "emptying a cesspool." The stench is reported to have been especially objectionable when the waters were stirred by a passing steamer. It was also stated that when the wind blew from the south during the warmer months of the year the peculiarly disagreeable odour of the Canal could be recognised "three miles away." It was alleged that, in some instances, persons residing near the canal, within 600 yards of it for example, had been compelled, owing to the stenches, to remove to houses a greater distance away. In casual conversation with nautical men and others, whom I met about the docks, I found that the smell of the Canal was regarded as similar to that perceived in summer from the River Clyde; others said it was "worse than that"; while several, on the other hand, maintained that "there was nothing to complain about." The evidence of medical men, however, was to the effect that a considerable nuisance had been created by the stenches from the Canal during hot weather; that these effluvia were greatly lessened from time to time by heavy rainfall and by floods, which acted by scouring out and flushing the bed of the canal and its feeders. No evidence was met with pointing directly to any specific illness as having been occasioned by the foul emanations from the Ship Canal; though it is stated that one medical man attributed to this cause some cases of fatal diarrhœa which he met with in a certain locality close to this waterway.

There is an arrangement at the locks whereby, in times of excessive rainfall, the gates of the sluices can be raised from the bottom, so that sludge and other impurities can be swept away by the force of the extra water flowing seaward. Continued dredging of the channel of the canal is being carried on by the Ship Canal Company; barges laden with sludge are being constantly taken down the Canal by tugs. This sludge, after it has been loaded into large tanks or receptacles on board the barges, is poured out of the receptacles by the help of cranes when the barge is moored alongside a temporary wharf, the sludge being emptied down an extemporised shoot, and used to fill up portions of the now disused channel of the Irwell from which the water has been diverted by the cutting of the canal. Places where this black sludge is deposited are said to smell offensively at times. It has been publicly stated at Manchester that more than half of the sludge formed in the Ship Canal is due to pollution of the Irwell and Mersey, and the cost alone of dredging the sludge is estimated at 50,000*l.* per annum.

Appended will be found (1.) Copy of the warrant constituting the Customs Port of Manchester; (2.) Copy of Sir Henry Roscoe's report on sewage effluents made to the Joint Committee, dated October 31, 1894; (3.) Copy of analyses of effluents and of canal water by Mr. Scudder; (4.) A diagram from the same report, showing by a chart the results of chemical analysis of effluents of sewage outfalls in the same watershed; (5.) Diagram from a report by Mr. Sutton, the Chief Inspector of the Joint Committee, showing the present position of urban authorities and the progress made since May 1892 to October 31st, 1894, in providing works for the treatment of sewage within the watershed of the Mersey and Irwell.

ADDENDUM No. 1.

Copy of Warrant.

Liverpool and Manchester.

Appointment of Ports.

Runcorn Annulled.

Whereas the Port of Liverpool, for Customs and general purposes as appointed and limited by Our warrant, dated the 1st day of January 1882, includes that part of the River Mersey shown on the plan herewith annexed, and distinguished by the blue colour, and all rivers, bays, channels, roads, bars, strands, harbours, havens, streams, and creeks within the limits:

And whereas the Port of Liverpool, for the purposes of the Mersey Docks Acts Consolidated Act, 1858, includes that part of the said river shown in the said plan, and distinguished by the blue and yellow colours:

And whereas the Port of Runcorn, for Customs and general purposes as appointed and limited by our warrant, dated the 1st day of January, 1862, consists of those parts of the Rivers Mersey and Weaver, shown in the said plan, and distinguished by the yellow colour:

And whereas, by the Manchester Ship Canal Act, 1885, it was enacted that from and after the completion and opening for traffic of the canal by that Act authorised, the said canal, and so much of the navigable waters of the Rivers Mersey and Irwell as lie between Hunt's Bank, in the township and parish of Manchester, and the limit of the Port of Liverpool at Warrington, and all channels, canals, cuts, locks, and works of the Manchester Ship Canal Company, within those limits, should be the harbour and port of Manchester, but it was provided that such harbour and port should not by virtue of that Act be deemed a port for Customs purposes, nor should anything in the said Act contained abridge or

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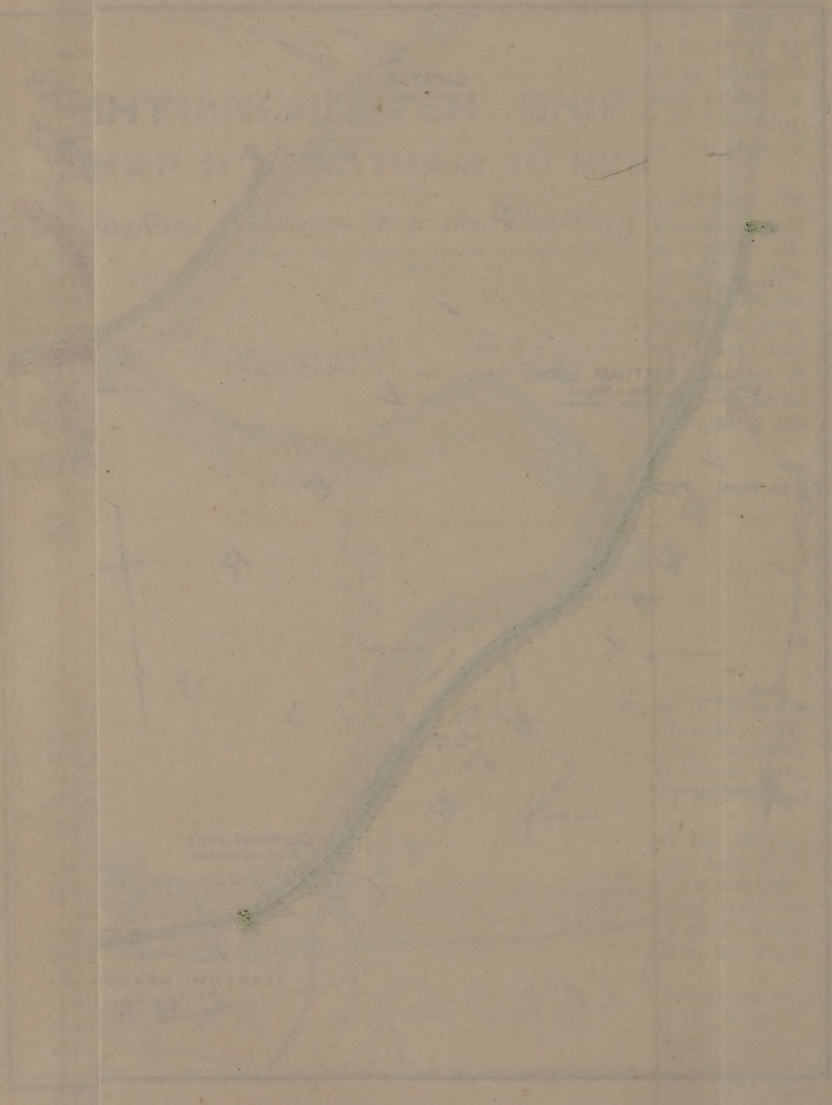

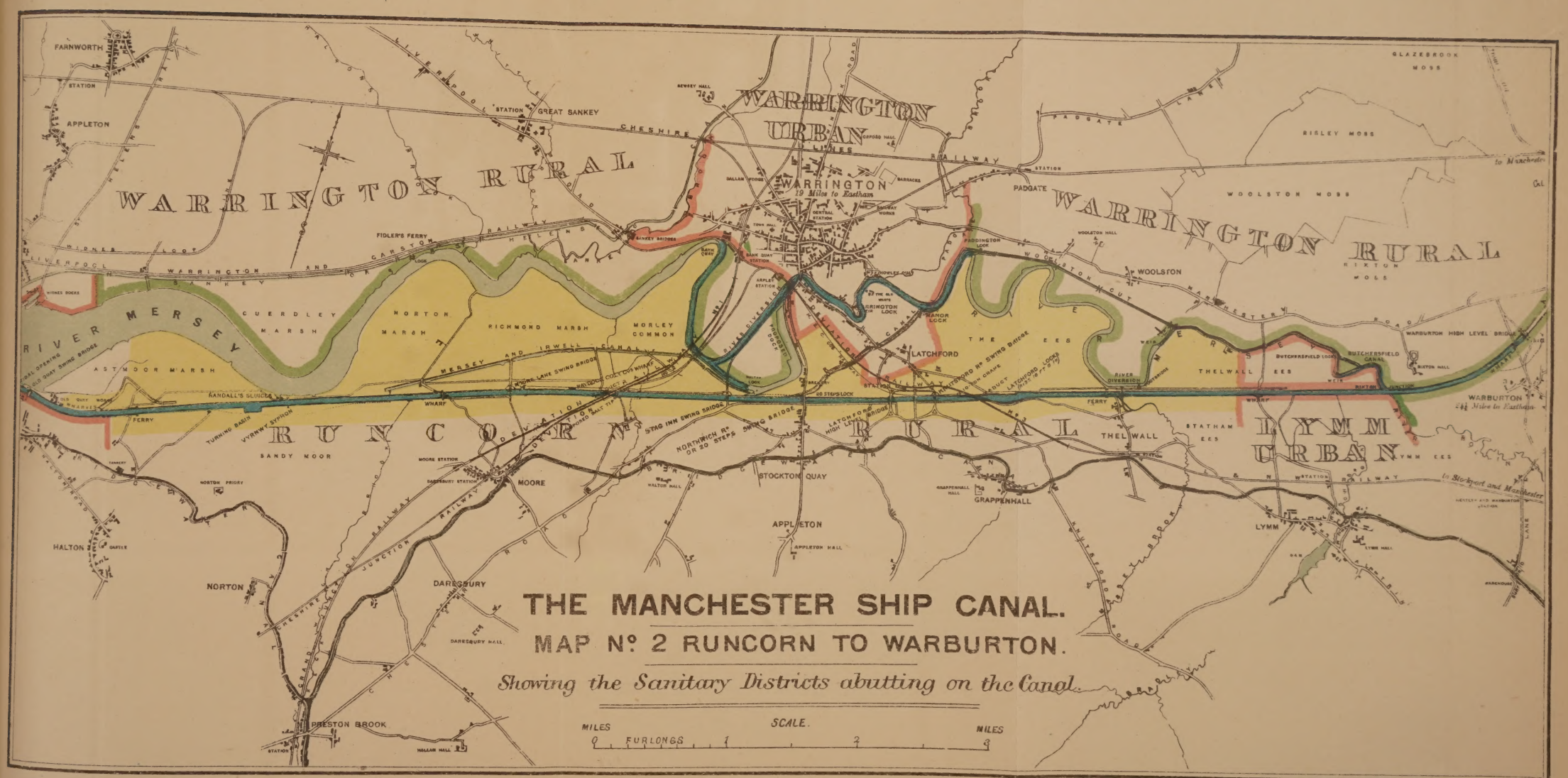

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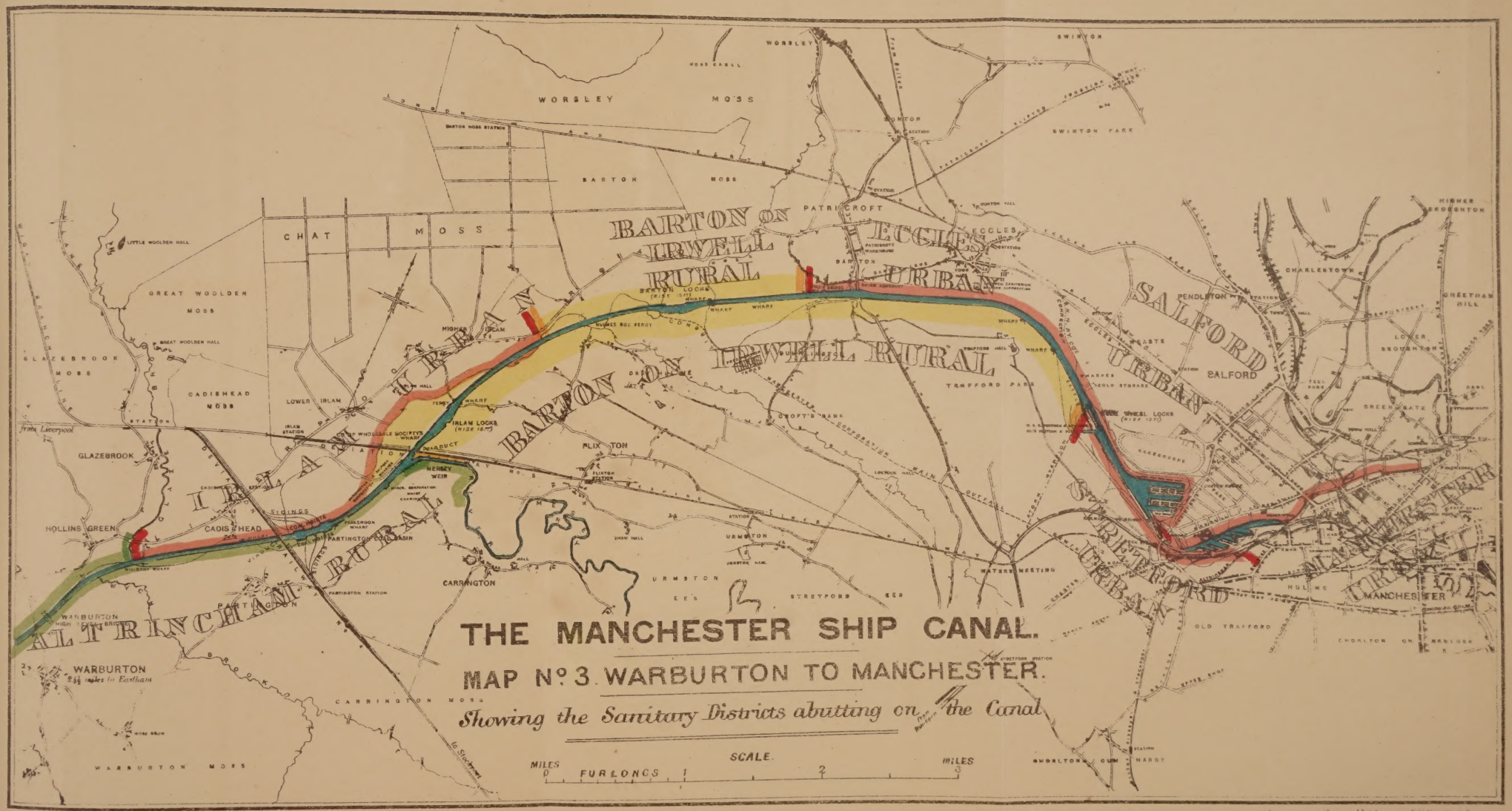
THE MANCHESTER SHIP CANAL.
MAP Nº 3. WARBURTON TO MANCHESTER.
Showing the Sanitary Districts abutting on the Canal
SCALE.
MILES
FURLONGS
WORSLEY MOSS
CHAT MOSS
BARTON MOSS
GREAT WOOLDEN MOSS
GLAZEBROOK MOSS
CADISHEAD MOSS
CARRINGTON MOSS
WARBURTON MOSS
BARTON on IRWELL RURAL
ECCLES URBAN
SALFORD URBAN
STRETFORD URBAN
MANCHESTER
ALTRINCHAM RURAL
BARTON LOCKS
IRLAM LOCKS
WARBURTON
CARRINGTON
PARTINGTON
IRLAM
GLAZEBROOK
CADISHEAD
HOLLINS GREEN
FLIXTON
URMSTON
STRETFORD
TRAFFORD PARK
SALFORD
PENDLETON
CHARLESTOWN
CHEETHAM HILL
LOWER BROUGHTON
OLD TRAFFORD
CHORLTON ON MEDLOCK
SWINTON
SWINTON PARK
PATRICROFT
ECCLES
WORSLEY
BARTON MOSS STATION
LITTLE WOOLDEN HALL
GREAT WOOLDEN HALL
HIGHER IRLAM
LOWER IRLAM
IRLAM STATION
CADISHEAD STATION
PARTINGTON STATION
FLIXTON STATION
URMSTON STATION
STRETFORD STATION
OLD TRAFFORD STATION
BARTON SWING BRIDGE
BARTON LOCKS (RISE 15ft)
IRLAM LOCKS (RISE 16ft)
BARTON WHARF
IRLAM WHARF
CADISHEAD WHARF
PARTINGTON WHARF
FLIXTON WHARF
STRETFORD WHARF
TRAFFORD WHARF
NUMBER BOZ FERRY
BARTON AQUEDUCT
IRLAM AQUEDUCT
NERSEY WEIR
PARTINGTON BASIN
WATERS MEETING
GROFT'S BANK
TRAFFORD PARK RACECOURSE
STRETFORD WHEEL LOCKS (RISE 12ft)
MANCHESTER DOCKS
BARTON HALL
TRAFFORD HALL
STRETFORD HALL
URMSTON HALL
ZHAM HALL
from Liverpool
to Stockport
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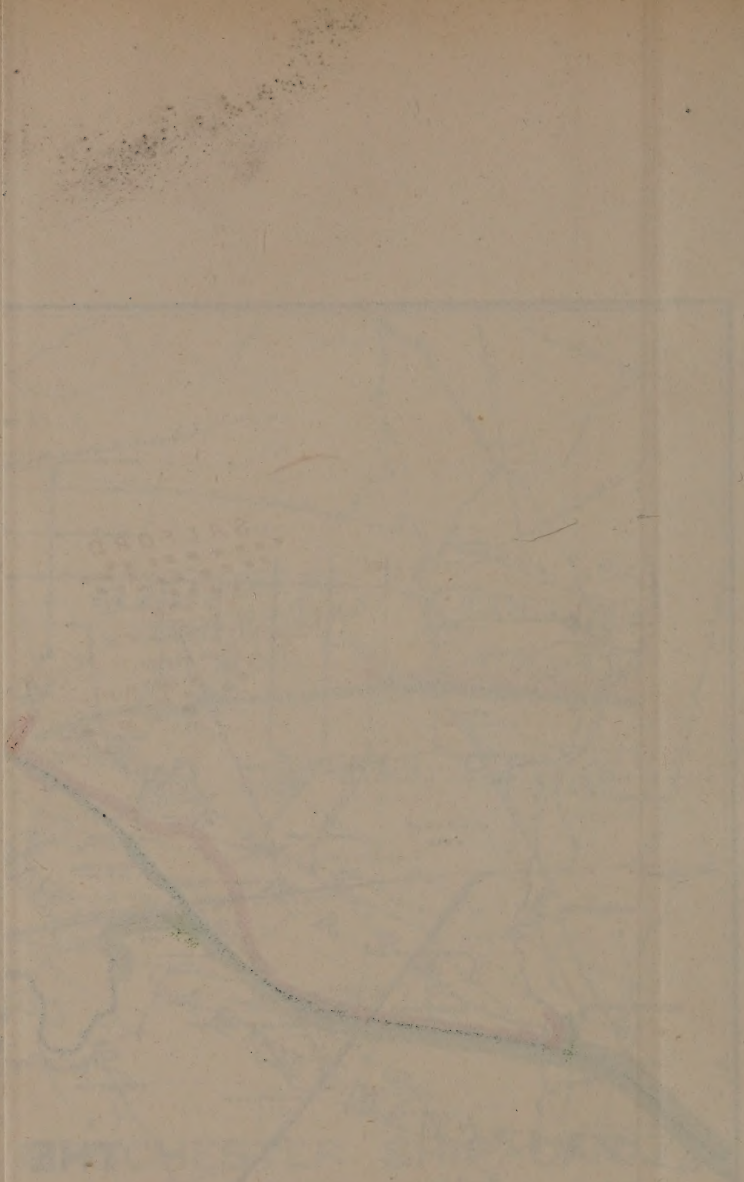

CHART SHOWING THE LIMITS OF THE CUSTOMS PORT OF MANCHESTER.

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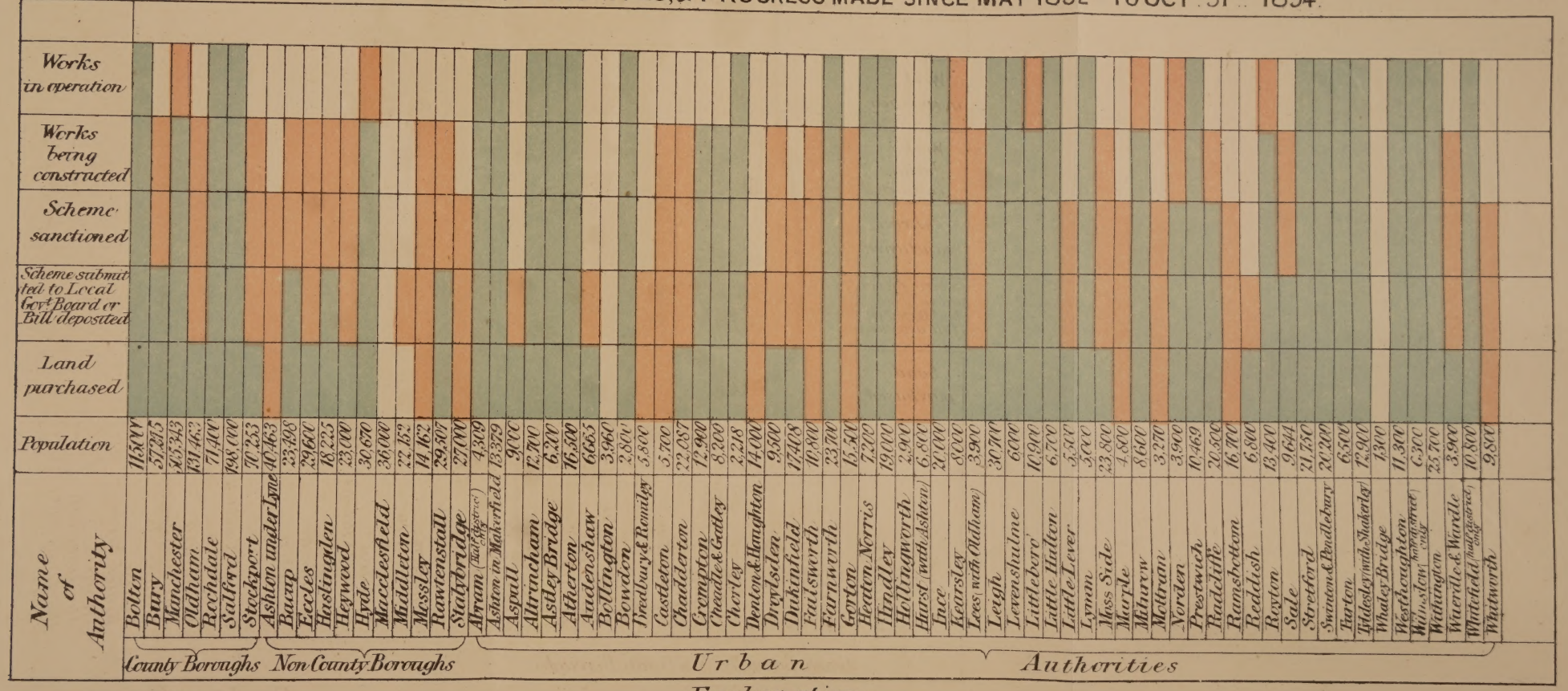
DIAGRAM FROM A RECENT REPORT OF Mr R.A. TATTON CHIEF INSPECTOR OF THE IRWELL & MERSEY JOINT COMMITTEE SHEWING PRESENT POSITION OF URBAN AUTHORITES, & PROGRESS MADE SINCE MAY 1892 – TO OCTR 31ST 1894.



Explanation.

Position with regard to Sewage Works in May 1892 .....

Progress made since May, 1892 up to October 31st 1894 .....

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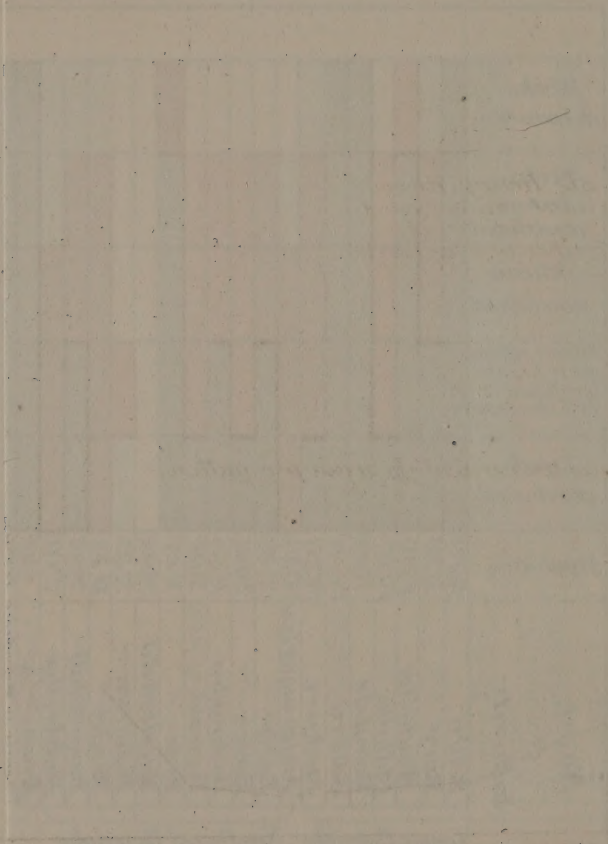

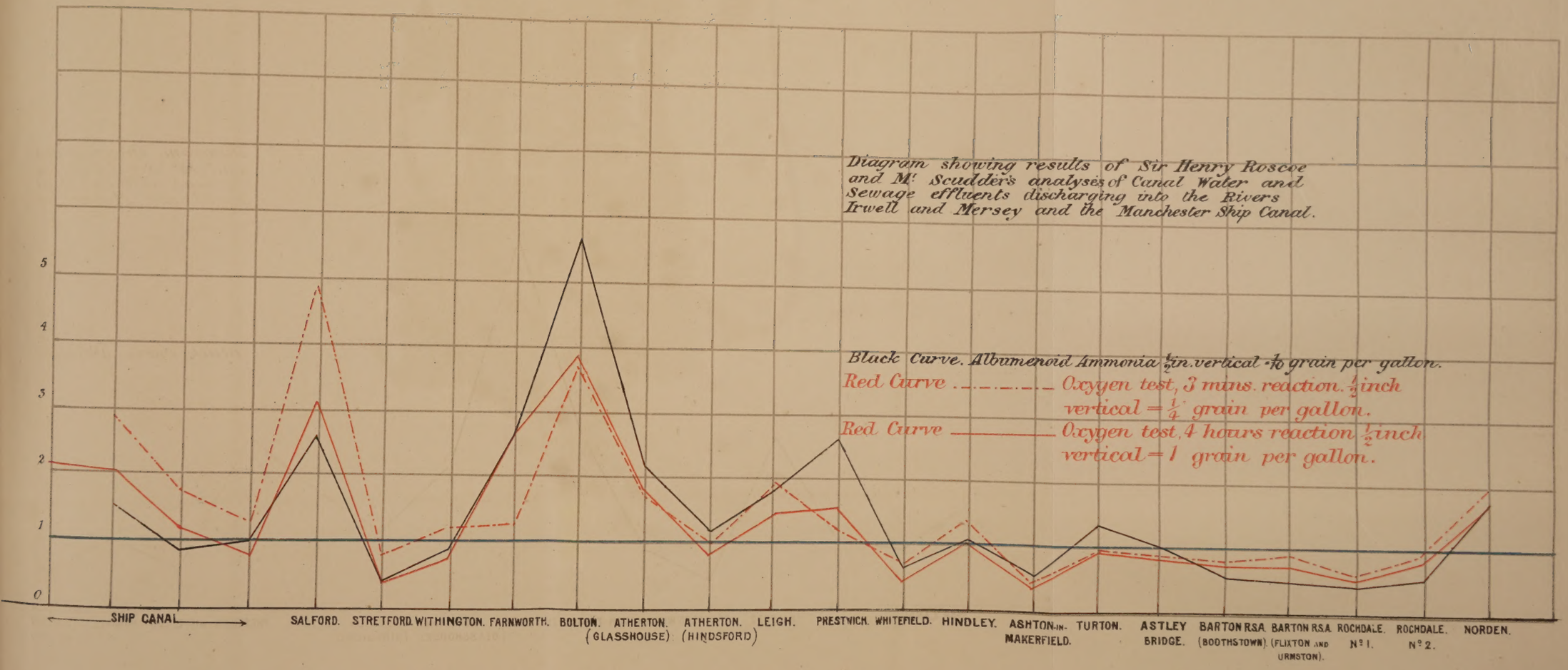

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affect in any way our power to appoint a port of Manchester, under the Customs Consolidation Act, 1876, with such limits as we may think fit, or affect any of the powers whatsoever conferred by that last-mentioned Act:

And whereas the canal referred to in the said Ship Canal Act (and which is, with the docks thereunto appertaining, shown in the said plan, and distinguished by the red colour), having been completed, and being about to be opened for traffic, we deem it expedient to appoint a port of Manchester under the powers conferred upon us by the Customs Consolidation Act, 1876, and to include in the limits thereof the said canal, with its appurtenances and the navigable waters referred to in the Manchester Ship Canal Act, 1885:

And whereas we also deem it expedient to revoke and annul our recited appointment of the Port of Runcorn, and to include what is now that port in the limits of the intended Port of Manchester; but it is not our intention that this last-mentioned extension of the intended Port of Manchester shall be deemed to affect any of the rights, powers, or privileges of the Port of Liverpool, or of the Mersey Docks and Harbour Board, in relation to the waters over which the said board have powers under the provisions of the Mersey Docks Acts Consolidation Act, 1858, or any other local Act:

Now, we, the Lords Commissioners of Her Majesty's Treasury of the United Kingdom of Great Britain and Ireland, do hereby, under the authority of the Customs Consolidation Act, 1876, appoint Liverpool to be a port in that part of the United Kingdom called England, and do hereby declare that the limits of the said port, on and after the 1st day of January 1894, shall commence at the termination of the Port of Chester, namely, at the Red Stones in Hoy Lake, on the Point of Wirral, and continue up the River Mersey on the Cheshire shore thereof to the west side of the entrance to the Manchester Ship Canal, at Eastham, thence in an easterly direction across the said entrance, and along the Cheshire shore of the river to Ince Ferry, the western termination on the Cheshire shore of the Port of Manchester, thence crossing the said River Mersey in a supposed straight line to Dungeon Point, being the western termination on the Lancashire shore of the said Port of Manchester, and continue along the coast of the county of Lancashire, to the southern boundary of the Port of Preston, namely, a gutter or run of water commonly called the Hundred End Water, on the south of the River Ribble, and the said port shall include all rivers, bays, channels, roads, bars, strands, harbours, havens, streams, and creeks (except the said Manchester Ship Canal), within the said limits contained, and shall extend seaward to a distance of three miles from low-water mark along the coast within the aforesaid limits.

And we do hereby, under authority of the same Act, appoint Manchester, on and after the 1st day of January 1894, to be a port in that part of the United Kingdom called England, and do hereby declare the limits of the said port shall commence at the eastern termination of the Port of Liverpool, that is to say, at an imaginary line across the River Mersey from Dungeon Point on the Lancashire shore to Ince Ferry on the Cheshire shore, and shall include the River Mersey above the said line, and the River Irwell, so far as the same are navigable, and the River Weaver to Frodsham Bridge; and shall also include the Manchester Ship Canal from the entrance thereof at Eastham, in the county of Chester (where it touches the Port of Liverpool) to Hunt's Bank, in the city and parish of Manchester, with all channels, havens, streams, creeks, cuts, and docks, within the limits aforesaid.

And we do hereby from the 31st day of December, 1893, annul all former limits of the said Ports of Liverpool and Runcorn, and declare Runcorn to be no longer a port.

(Signed) THOMAS E. ELLIS.
W. A. MCARTHUR.

Whitehall, Treasury Chambers,
18th day of December 1893.

ADDENDUM No. 2.

Sir Henry Roscoe's Report.

Gentlemen, Manchester, October 31st, 1894.

During the past month 32 samples of effluents from the treatment of sewage have been submitted to me for report. The results of the examination are set forth in the table of analysis herewith sent. Eight of the effluents are good, four may be passed for the present, five are not satisfactory, and 15 are bad.

From manufacturing processes 39 samples of effluents have been examined during the past month. Fourteen of the effluents are satisfactory, 24 are not satisfactory, although they are from works having purification plant in operation, and one sample is from a brewery.

The details of the analyses of the 39 samples are herewith sent.

With regard to the effluents from sewage works submitted to me from time to time for analysis by the Chief Inspector, I have recently had occasion to review the results of a large number of determinations made of the oxygen consumed from permanganate of potash acting on the effluent water, which have, from time to time, been communicated to the Committee.

Altogether 231 determinations have been made up to date, and the results of each determination are set forth in the four diagrams A, B, C, and D attached to this report. Before, however, discussing those diagrams, I wish to make a few observations on the permanganate test as applied to measure the quality of the effluent. This test is of the greatest value, because not only is it a most reliable method for estimating the presence and quality of the organic matter, but because a large number of determinations may be made in a comparatively short space of time, and comparisons drawn between the various effluents from sewage works. When corroborative proof is required that a particular effluent is not of a satisfactory character, additional modifications of the test are applied, and also a determination of the nitrogenous organic matter made by the Wanklyn process. It may, however, be concluded that where the oxygen absorbed is a low figure, there is not much reason for complaint, and, on the other hand, that a high oxygen absorbed figure is indicative of the unsatisfactory character of the effluent.

My assistant, Mr. Scudder, has, at my request, made a number of chemical tests on various samples of sewage effluents, and of water taken from the Ship Canal. The results are set forth in Table 1, and are also diagrametically shown in Diagram 1, in which three curves are given, viz., the albuminoid ammonia, the oxygen absorbed in three minutes, and the oxygen absorbed in four hours.

For the purpose of comparison, I have taken the following three standards:—

One inch vertical scale of diagram = $\frac{1}{10}$ grain per gallon albuminoid ammonia.

One inch vertical scale of diagram = $\frac{1}{4}$ grain oxygen per gallon; three minutes reaction.

One inch vertical scale of diagram = 1 grain oxygen per gallon; four hours reaction.

Twenty-three analyses are given of 19 effluents from the treatment of sewage, and of four samples of water from the Ship Canal.

Of the 19 effluents, 8 come within the three standards, 11 comply with two of the standards, 12 comply with one of the standards, and 7 are outside all the standards.

Of the 4 samples of water from the Ship Canal none comply with all the three standards, 1 complies with two of the standards, and 2 comply with one of the standards.

Of the 19 effluents, 12 comply with the four hours oxygen absorbed standard, 10 comply with the three minutes oxygen absorbed standard, and 9 comply with the albuminoid ammonia standard.

Of the 4 waters from the Ship Canal, 1 complies with the four hours oxygen absorbed standard, none with the three minutes oxygen absorbed standard, and 2 comply with the albuminoid ammonia standard.

It must be distinctly understood that the standards named are only adopted for the purpose of criticising and comparing the results in these particular cases, and must not be taken as definite standards, and that in judging of the efficiency of any process of sewage purification the quality of the raw sewage has also to be taken into consideration, as well as other factors, the discussion of which I need not enter upon at present.

It is, in my opinion, most important that this line of investigation should be continued, and a complete set of analytical figures obtained from all the sewage works within the watershed for the future guidance of the Committee.

We now come to the discussion of the four diagrams A, B, C, and D. For the purpose of criticising the results, I have taken a low standard for comparison, viz., one grain oxygen per gallon, 4 hours reaction. The horizontal blue line on the diagrams is the limit of impurity. The results of the examination of 231 effluents from the 45 sewage works now in operation are plotted in the diagrams, and we find that, of these 45 works, 23 are generally within this standard.

The county boroughs, with the exception of Rochdale, are in an unsatisfactory position. The population of the seven county boroughs is 1,148,699, and the sewage from 43 per cent. of this population flows untreated into the rivers at the present time. Manchester is treating by chemical precipitation the sewage from a population of 269,865, but the effluent from the chemical treatment alone cannot be considered satisfactory. Bolton, with a population of 115,000, is turning out a most unsatisfactory effluent, and Salford, with a population of 198,000, is in a similar position. Rochdale, on the other hand, with a population of 71,400, is treating its sewage efficiently. Bury, Oldham, and Stockport have not yet got sewage works in operation.

Of the 11 non-county boroughs, representing a population of 294,277, Hyde, with a population of 30,670, is the only one in which a sewage treatment is at work, and this with a satisfactory result. In other words, of the 294,277 population only 10 per cent., or 30,670, is treated satisfactorily, 90 per cent. being crude sewage.

With regard to 56 Urban Sanitary Authorities, representing a population of 608,259, 27, representing a population of 261,134, have no sewage works in operation; 22 have sewage works, and, generally speaking, turn out satisfactory effluents from a population of 230,756; and seven have sewage works turning out unsatisfactory effluents from a population of 116,369. In other words, the sewage from 43 per cent. of the 608,259 population flows untreated into the rivers, 38 per cent. is satisfactorily treated, and 19 per cent. is unsatisfactorily treated.

With reference to Rural Sanitary Authorities, the results of the examination of effluents from 12 sewage works are diagrametically shown in Table D., and, with one exception, show, generally a fairly satisfactory result.

Whilst I have considered it my duty to point out to the Committee the exact position at the present moment of the sewage effluents, it is equally necessary to refer to Table I. on page 272 of the Proceedings of the Joint Committee showing that great progress is being made for the completion of sewage works, whilst those works which are shown on the diagrams to be unsatisfactory are being compelled by the Committee to take the necessary steps to ensure satisfactory results. By means of the analyses the Committee might obtain a clear idea of how matters at present stand. I need scarcely say that the difficulties of treatment in towns like Manchester, Salford, or Bolton are much greater than with rural sanitary and the smaller urban authorities. Therefore, when they find that such places are doing their best, the Committee will probably see that sufficient time is allowed.

It would be important to learn from the Chief Inspector the existing engineering difficulties which render in each particular instance the method of treatment ineffective.

HENRY E. ROSCOE.

44, Mosley Street, Manchester,
November 5th, 1894.

ADDENDUM No. 3.

Effluents from the Treatment of Sewage.

	No.	Sample.	Oxidizable Organic Matter. Oxygen absorbed from an Acid Solution of $K Mn O_4$. 4 hours Grains per Gallon.	Remarks.
Good.	1	Ashton-in-Makerfield, Sept. 15, 10.0 am., fine weather.	0·34	Clear, colourless, and free from smell.
	2	Heaton Norris, Sept. 8th, 1.5 p.m., fine weather.	0·34	Clear, colourless, and free from smell. Contained a little oxide of iron in suspension.
	3	Hyde, Sept. 7th, 11.30 a.m., fine weather.	0·37	Slightly turbid, free from smell and suspended solids.
	4	Whitefield, Sept. 14th, 1.20 p.m., fine weather.	0·40	Clear, free from smell. Contained slight amount of oxide of iron in suspension.
	5	Stretford, Sept. 12th, 10.45 a.m., fine weather.	0·46	Colourless, slight earthy smell. Traces of oxide of iron in suspension.
	6	Rochdale (No. 1), Sept. 20th, 1.50 p.m., showery weather.	0·47	Colourless, free from smell. Slightly turbid, with traces of suspended solids.
Passable.	7	Barton R.S.A. (Boothstown), Sept. 19th, 9.30 a.m., fine weather.	0·65	Clear, colourless, and free from smell. Contained a little oxide of iron in suspension.
	8	Withington, Sept. 12th, 9.40 a.m., fine weather.	0·68	Turbid, free from smell. Contained a little oxide of iron in suspension
	9	Barton R.S.A. (Flixton and Urmston) Sept. 19th, 2.30 p.m., fine weather.	0·69	Clear, slightly yellow colour. Slight smell. Contained oxide of iron in suspension.
Unsatisfactory.	10	Astley Bridge, Sept. 17th, 2.0 p.m., fine weather.	0·74	Clear and colourless, Slight sewage smell.
	11	Rochdale (No. 2), Sept. 2.0 p.m., showery weather.	0·79	Slightly turbid, with traces of suspended solids. No smell.
	12	Turton, Sept. 17th, 12.20 p.m., fine weather.	0·88	Slightly turbid, with traces of suspended solids. Smell of sewage.
	13	Atherton, Hindsford, Sept. 13th, 2.10 p.m., fine weather.	0·88	Slightly turbid. Contained no suspended solids. Putrescent smell.
	14	Hindley, Sept. 15th, 10.50 a.m., fine weather.	0·99	Slightly turbid. Traces of suspended solids. Putrescent smell.
Bad.	15	Leigh, Sept. 13th, 11.0 a.m., fine weather.	1·49	Turbid. Traces of suspended solids. Putrescent smell.
	16	Barton R.S.A. (Barton Moss), Sept. 19th, 11.30 a.m., fine weather.	1·52	Clear, colour slightly yellow. Contained oxide of iron in suspension and slight smell.
	17	Prestwich, Sept. 14th, 9.45 a.m., fine weather.	1·52	Turbid, slight amount of suspended matter. Putrescent smell.
	18	Norden, Sept. 20th, 10.45 a.m., fine weather.	1·74	Turbid, contained a little suspended matter. Putrescent smell.
	19	Atherton (Glass House), Sept. 13th, 12.45 p.m., fine weather.	1·78	Clear and colourless, alkaline. Putrescent smell.
	20	Farnworth, Sept. 12th, 7.20 p.m., fine weather.	2·59	Slightly turbid, free from suspended matter, alkaline. Putrescent smell.
	21	Salford, Sept. 10th, 7.15 p.m., fine weather.	3·08	Clear and colourless, alkaline, with white flocculent matter in suspension. Putrescent smell.
	22	Bolton, Sept. 12th, 6.40 p.m., fine weather.	3·89	Brown and turbid, containing brown suspended matter. Smell of putrescent urine.

Nos. 1 to 6, good effluents.
Nos. 7 to 9, may be passed for the present.
Nos. 10 to 14, not satisfactory effluents.
Nos. 15 to 22, bad effluents.

September 24th, 1894.

Frank Scudder,
For Sir Henry Roscoe.

ADDENDUM No. 3—*continued.*

Effluents from the Treatment of Sewage.

Results expressed in Grains per Gallon.

	No.	Sample.	Oxidizable Organic Matter. Oxygen absorbed from an Acid Solution of $K Mn O_4$. 4 hours.	Remarks.
Good.	1	Ashton-on-Mersey, Sept. 27th rain on 25th Sept.	0·44	Very slightly turbid, little oxide of iron in suspension. No smell.
	2	Timperley, Sept. 27th, rain on 25th Sept.	0·44	Very slightly turbid, little suspended matter. Colourless, and no smell.
	3	Bowdon, Sept. 26th, rain on 25th Sept.	0·50	Clear and colourless, little oxide of iron in suspension, and no smell.
	4	Alderley, Sept. 26th, rain on 25th Sept.	0·51	Clear and colourless, little suspended matter. No smell.
	5	Kearsley, Oct. 17th, fine weather.	0·53	Very slightly turbid. Had a slight smell, which gradually disappeared.
	6	Clifton, Oct. 15th, fine weather	0·54	Clear, coloured slightly yellow. No smell.
	7	Altrincham, Sept. 27th, rain on 25th Sept.	0·55	Clear, coloured slightly yellow. No smell.
	8	Pendlebury, Oct. 15th, fine weather.	0·57	Clear and colourless, containing a little oxide of iron in suspension. No smell.
Passable.	9	Royton (No. 1), Oct. 4th, fine weather.	0·60	Colourless, slightly turbid, trace of suspended matter. No smell.
	10	Swinton (No. 1), Oct. 9th, fine weather.	0·63	Clear and colourless, traces of suspended matter. No smell.
	11	Pendlebury, Oct. 9th, fine weather.	0·63	Very slightly turbid. No suspended matter. No smell.
	12	Hale, Sept. 26th, rain on 25th Sept.	0·65	Clear and colourless, little oxide of iron in suspension. Slight smell.
Unsatisfactory.	13	Withington, Oct. 4th, fine weather.	0·74	Colourless, turbid. Trace of suspended matter. Putrescent smell.
	14	Wilmslow, Sept. 26th, rain on 25th Sept.	0·81	Slightly yellow colour, little oxide of iron in suspension. Slight smell alkaline.
	15	Dunham Massey, Sept. 27th, rain on 25th Sept.	0·85	Turbid, little suspended matter. Having distinct smell.
	16	Swinton (No. 1), Oct. 15th, fine weather.	0·92	Slightly turbid, little suspended matter. Slight smell.
	17	Whitefield, Oct. 10th, 2 hours after slight rain.	0·93	Contained trace of suspended matter, clear. Sewage smell.

Nos. 1 to 8, good effluent.
Nos. 9 to 12, may be passed for the present.
Nos. 13 to 17, not satisfactory effluents.

ADDENDUM No. 3—*continued.*

	No.	Sample.	Oxidizable Organic Matter. Oxygen absorbed from an Acid Solution of $KMnO_4$. 4 hours.	Remarks.
Bad.	18	Royton (No. 2), Oct. 4th, fine weather.	1·1	Turbid, containing a quantity of brown suspended matter. Putrescent smell.
	19	Knutsford, Sept. 26th, rain on 25th Sept.	1·12	Turbid, containing traces of white suspended matter. Putrescent smell.
	20	Whitefield, Oct. 8th, fine weather.	1·13	Turbid, containing traces of suspended matter. Putrescent smell.
	21	Manchester, Oct. 16th, fine weather.	1·44	Turbid, containing traces of suspended matter. Putrescent smell.
	22	Farnworth, Oct. 17th, fine weather.	1·56	Turbid, colourless, slight deposit of carbonate of lime. Alkaline, smell of urine.
	23	Swinton (No. 2), Oct. 15th fine weather.	1·81	Very turbid, containing brown suspended matter. Sewage smell.
	24	Manchester, Oct. 11th, fine weather.	1·88	Turbid, containing traces of suspended matter. Putrescent smell.
	25	Manchester, Oct. 18th, fine weather.	2·21	Turbid, containing traces of suspended matter. Putrescent smell.
	26	Farnworth, Oct. 18th, fine weather.	2·71	Colourless, slight deposit of carbonate of lime. Smell of urine, alkaline.
	27	Salford, Oct. 2nd, fine weather	3·65	Yellow coloured, traces of suspended matter, strongly alkaline. Putrescent smell.
	28	Salford, Oct. 12th, 11.0 a.m., slight rain.	3·66	Slight deposit of carbonate of lime, clear, strongly alkaline. Putrescent smell.
	29	Salford, Oct. 12th, 10.0 a.m., slight rain.	3·88	Slight deposit of carbonate of lime, clear, strongly alkaline. Putrescent smell.
	30	Salford, Oct. 15th, fine weather	4·13	Light brown colour. Trace of suspended matter, strongly alkaline. Putrescent smell.
	31	Swinton (No. 2), Oct. 9th, fine weather.	4·18	Light brown colour, quantity of suspended matter, frothy. Putrescent smell.
	32	Bolton, Oct. 3rd, fine weather	7·44	Turbid, brown, containing a quantity of brown suspended matter, slightly alkaline, and having a putrescent smell.

Nos. 18 to 32, bad effluents.

October 27th, 1894.

FRANK SCUDDER,
For Sir HENRY ROSCOE.

ADDENDUM No. 3—*continued.*

Analyses of Effluents from the Treatment of Sewage and of Water from the Ship Canal.

Results expressed in Grains per Gallon.

Sample.	Oxygen Absorbed.			Ammonia.		Chlorine.
	3 Mins.	15 Mins.	4 Hours.	Free and Saline.	Albumi-noid.	
Ship canal water - -	—	—	2·1	—	—	—
Ship canal water - -	0·73	1·25	2·05	0·68	0·148	7·0
Ship canal water - -	0·45	0·64	1·13	0·42	0·084	—
Ship canal water - -	0·30	0·43	0·82	0·32	0·104	—
Salford - - - -	1·23	1·81	3·08	2·16	0·252	14·0
Stretford - - -	0·19	0·33	0·46	0·69	0·04	6·5
Withington - - -	0·3	0 53	0·68	1·232	0·084	3·1
Farnworth - - -	0·34	0·89	2·59	1·44	0·264	6·4
Bolton - - - -	0·93	1·94	3·89	2·50	0·574	7·5
Atherton (Glass House) -	0·42	0·82	1·78	2·63	0·226	5·8
Atherton (Hindsford) -	0·24	0·35	0·88	1·344	0·123	5·0
Leigh - - - -	0·49	0·78	1·49	1·064	0·185	9·3
Prestwich - - -	0·29	0·87	1·52	1·92	0·266	4·2
Whitefield - - -	0·17	0·26	0·40	1·022	0·067	2·4
Hindley - - -	0·33	0·57	0·99	1·168	0·109	8·7
Ashton-in-Makerfield -	0·1	0·25	0·34	1·786	0·056	6·1
Turton - - - -	0·22	0·39	0·88	1·316	0·14	3·0
Astley Bridge - - -	0·18	0·35	0·74	1·092	0·10	4·5
Barton R.S.A. (Boothstown)	0·18	0·36	0·65	0·784	0·056	6·9
Barton R.S.A. (Flixton and Urmston).	0·21	0·37	0·69	0·812	0·05	4·1
Rochdale No. 1 - -	0·13	0·25	0·47	0·17	0·04	6·4
Rochdale No. 2 - -	0·23	0·42	0·79	0·448	0·056	5·8
Norden - - - -	0·48	0·89	1·74	2·34	0·18	3·8

September, 1894.

Frank Scudder,
For Sir Henry Roscoe.

ADDENDUM B.

TABLE showing the PORT SANITARY DISTRICTS, URBAN SANITARY DISTRICTS, and PARISHES of RURAL SANITARY DISTRICTS Riparian to the several CUSTOMS PORTS of ENGLAND and WALES.

[*In this Table names of Port Sanitary Districts are printed in small capitals, and names of Sanitary Districts or parishes comprised in Port Sanitary Districts are printed in italics.*]

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Berwick.		Berwick-upon-Tweed.	Berwick-upon-Tweed:— Ancroft. Kyloe. Holy Island. Belford:— Elwick. Ross. Outchester. Spindleston. Budle. Bamburgh. Bamburgh Castle. Monks House. Ferne Islands. Shoreston. North Sunderland. Beadnell. Swinhoe. Tughall. Alnwick:— Newton-by-the-Sea. Embleton. Dunston. Craster. Howick. Long Houghton.
North Shields (part of).		Amble.	Alnmouth. Lesbury. High Buston. Low Buston. Birling. Warkworth. Hauxley. Togstone. Morpeth:— Hadston. East Chevington. Widdrington. Cresswell. Linmouth.
		Newbiggin.	North Seaton.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanita ry Districts and Riparian Parishes.
North Shields (part of).	River Blyth	*Bedlingtonshire.* *Cowpen.* *South Blyth.* Whitley and Monkseaton. *Tynemouth.* *Howdon.*	Tynemouth :— Seaton Delaval. Hartley.
Newcastle.*	River Tyne	*Willington Quay.* *Wallsend.* *Walker.* *Newcastle-upon-Tyne.* *Gateshead.* *Felling.* *Hebburn.* *Jarrow.*	
South Shields.		*South Shields.*	South Shields :— Harton. Whitburn (part of).
Sunderland.	Sunderland	*Sunderland.* *Southwick.* Seaham Harbour.	South Shields (part of) :— Whitburn (part of). *Sunderland* :— *Fulwell.* *Hylton.* *Ford.* *Ryhope.* Easington (part of) :— Seaham. Cold Hesledon. Hawthorne. Easington with Thorpe. Shotton.
Hartlepool.	Hartlepool	*Hartlepool.* *West Hartlepool.*	Monk Hesledon. Hartlepool (part of) :— Thorpe Bulmer. Hart. *Seaton Carew* (part of).
Middlesbrough (part of).	River Tees (part of).		*Hartlepool* (part of) :— *Seaton Carew* (part of). *Greatham.* *Stockton* :— *Cowpen Bewley.* *Billingham.*

* It has not been considered necessary to enumerate the several Parishes riparian to the River Tyne situate above Newcastle, which are nominally included in the Newcas tle Customs Port.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Stockton.*		*Stockton.* *Thornaby.*	*Middlesbrough* :— *Linthorpe.*
Middlesbrough (part of).	River Tees (part of).	*Middlesbrough.* *Normanby.* *Eston.* *Kirkleatham.* Redcar. Saltburn-by-the-Sea.	*Guisbrough* (part of) :— *Wilton.* Guisbrough (part of) :— Marske.
Whitby.		Skelton and Brotton. Loftus. Hinderwell. Whitby.	Guisbrough (part of) :— Easington. Whitby :— Ellerby. Mickleby. Barnby. Lythe. Newholm-with-Dunsley. Hawsker-with-Stainsacre Fylingdales. Scarborough (part of) :— Stainton Dale.
Scarborough.		Scarborough. Filey.	Scarborough (part of) :— Cloughton. Burniston. Scalby. Throxenby. Cayton. Lebberston. Gristhorpe. Muston. Bridlington :— Hunmanby. Reighton. Speeton. Buckton. Bempton-with-Newsholm. Flamborough (part of).

* It has not been considered necessary to enumerate the several Parishes riparian to the River Tees situate above Stockton, which are nominally included in the Stockton Customs Port.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
		Bridlington.	Bridlington (part of):— Flamborough (part of). Sewerby-with-Marton. Hilderthorpe. Wilsthorpe. Auburn. Fraisthorpe. Barmston. Ulrome. Skipsea.
		Hornsea.	Skirlaugh:— Atwick. Mappleton-with-Rowlston. Cowdens Ambo. Aldbrough. East Newton. Garton-with-Grimston.
Hull (part of).			Patrington:— Tunstall. Waxholme. Withernsea. Holmpton. Out Newton. Easington (part of). Kilnsea. Easington (part of). Skeffling. Welwick. Patrington. Sunk Island. Paull.
	Hull and Goole (part of).	*Kingston-upon-Hull.*	*Sculcoates*:— *Preston.* *Hessle.* *Swanland.* *North Ferriby.* *Melton.* *Welton.*
		South Cave and Wallingfen.	*Beverley*:— *Elloughton-with-Brough.* *Brantingham.* *Ellerker.* *Howden*:— *Faxfleet.*

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Goole.*		*Goole.*	*Scalby.* *Blacktoft.* *Yokefleet.* *Metham.* *Cotness.* *Saltmarsh.* *Skelton.* *Goole* :— *Swinefleet and Reedness.* *Whitgift.* *Ousefleet.*
Hull (part of).	Hull and Goole (part of).	*Gainsborough.*	*Adlingfleet.* *Garthorpe.* *Thorne* :— *Amcotts.* *Keadby.* *Althorpe.* *Gainsborough* :— *West Butterwick.* *Owston.* *West Stockwith.* *Misterton.* *Walkeringham.* *Beckenham.* *Saundby.* *Morton.* *Walkerith.* *East Stockwith.* *Wildsworth.* *East Ferry.* *Scotter.* *Glandford Brigg* (part of) :— *Messingham.* *East Butterwick.* *Burringham.* *Brumby.* *Frodingham.*
		Scunthorpe.	*Gunhouse.* *Crosby.* *Flixborough.* *Burton-upon-Stather.* *West Halton.* *Alkborough.* *Whitton.* *Winteringham.* *South Ferriby.*
		Barton-upon-Humber.	*Barrow-upon-Humber.* *Goxhill* (part of).
Grimsby (part of).			Glandford Brigg (part of) :— Goxhill (part of). East Halton. North Killingholme. South Killingholme

* It has not been considered necessary to enumerate the several parishes riparian to the River Ouse and its tributaries situate about Goole, which are nominally included in the Goole Customs Port.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Grimsby (part of).	GRIMSBY.	*Great Grimsby.* Cleethorpes with Thrunscoe.	Caistor:— Immingham. Stallingborough. Great Coates. Little Coates. Humberston. Louth:— Tetney. North Coates. Marsh Chapel. Gramthorpe. North Somercotes. South Somercotes. Skidbrook-with-Saltfleet. Saltfleet - by - St. Clement. Theddlethorpe All Saints. Theddlethorpe St. Helen. Mablethorpe. Trusthorpe.
Boston.	BOSTON.	Skegness. *Boston.* Spalding. Holbeach.	Spilsby:— Sutton-in-the-Marsh. Huttoft. Anderby. Mumby. Ingoldmells. Croft. Wainfleet St. Mary Friskney. Boston (part of):— Wrangle. Leake. Leverton. Bennington. Butterwick. *Boston (part of)*:— *Frieston.* *Fishtoft.* *Skirbeck.* *Skirbeck Quarter.* *Wyberton.* Frampton. Kirton. Fosdyke. Spalding:— Weston. Moulton. Holbeach (part of):— Gedney. Sutton.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
		Sutton Bridge.	*Holbeach* (part of) :— *Tydd St. Mary.* *Central Wingland.*
Wisbech.	WISBECH.	*Wisbech.* *Walsoken.*	*Wisbech* (part of) :— *Tydd St. Giles.* *Leverington.* *West Walton.* *Walpole St. Peter.* *Walpole St. Andrew.* *Terrington St. Clement* (part of).
Lynn.	KING'S LYNN.	*King's Lynn.*	*Wisbech* (part of) :— *Terrington St. Clement* (part of). *Clenchwarton.* *King's Lynn* :— *North Lynn.* *West Lynn.* *Freebridge Lynn* (part of) :— *Gaywood.* *South Wootton.* *North Wootton.* Freebridge Lynn (part of) :— Wolferton. Docking :— Snettisham. Heacham.
	WELLS.	Hunstanton. *Wells-next-the-Sea.*	Holm-next-the-Sea. Thornham. Titchwell. Brancaster. Burnham Deepdale. Burnham Norton. Burnham Overy. Walsingham :— Holkham. Warham All Saints. Warham St. Mary. Stiffkey. Morston. Blackeney. Erpingham (part of) :— Cley-next-the Sea. Salthouse. Kelling. Weybourne.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Yarmouth.	YARMOUTH (part of).	Cromer.	Erpingham (part of):— Sheringham. Beeston Regis. Runton. Overstrand. Sidestrand. Trimingham. Gimingham. Mundsley.
			Smallburgh:— Paston. Bacton. Walcott. Happisburgh. Hempstead-with-Eccles. Palling. Waxham. Horsey.
		Great Yarmouth.	*East and West Flegg*:— *Winterton.* *Hemsby.* *Ormesby St. Margaret-with-Scratby.* *Caistor-next-Yarmouth.*
			Blofield:— *Reedham.* *Moulton.* *Beighton.* *Freethorpe.* *Runham.*
			Loddon and Clavering:— *Chedgrave.* *Langley.* *Mutford and Lothingland* (part of):— *Burgh Castle.* *Hopton.*
Lowestoft.	LOWESTOFT	*Lowestoft.*	*Mutford and Lothingland* (part of):— *Corton.* *Gunton.* *Carlton Colville.* *Oulton.*
			Mutford and Lothingland (part of):— Pakefield. Kessingland.
			Blything:— Benacre. Covehithe. Easton Bavent.
		Southwold.	Dunwich. Leiston. Aldringham with Thorpe.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Ipswich.	Ipswich	Aldeburgh.	Plomesgate :— Sudbourne. Orford. Gedgrave. Woodbridge :— Boyton. Hollesley. Bawdsey. Ramsholt. Sutton.
		Woodbridge.	Martlesham. Waldringfield. Hemley. Kirton. Falkenham.
		Felixstowe and Walton (part of).	*Woodbridge* (part of) :— *Trimley St. Mary.* *Trimley St. Martin* (part of). *Stratton Hall.* *Levington.* *Nacton.* *Alnesbourne Priory.*
		Ipswich.	*Samford* (part of) :— *Wherstead.* *Freston.* *Woolverstone.* *Chelmondiston.* *Shotley* (part of).
Harwich.	Harwich	*Felixstowe and Walton* (part of).	*Woodbridge* (part of) :— *Trimley St. Martin* (part of). *Samford* (part of) :— *Shotley* (part of). *Erwarton.* *Harkestead.* *Holbrook.* *Stutton.* *Brantham.* *Tendring* (part of) :— *Manningtree.* *Mistley.* *Bradfield.* *Wrabness.* *Ramsey* (part of).
		Harwich.	Tendring (part of) :— Ramsey (part of). Little Oakley. Great Oakley. Beaumont-cum-Moze. Horsey Island. Kirby-le-Soken.
		Walton-on-the-Naze (part of).	

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
		Walton-on-the Naze (part).	Tendring (part of) :—
			Frinton.
			Great Holland.
			Little Holland.
		Great Clacton.	
			St. Osyth (part of).
	COLCHESTER	*Colchester.*	*Tendring* (part of) :— *St. Osyth* (part of). *Great Bentley.* *Thorrington.* *Brightlingsea.* *Alresford.* *Elmstead.*
Colchester (part of).			*Lexden and Winstree* (part of). *Wivenhoe.* *Greensted.* *East Donyland.* *Fingringhoe.* *Langenhoe.* *East Mersea* (part of). *West Mersea* (part of).
			Lexden and Winstree (part of) :— East Mersea (part of). West Mersea (part of). Little Wigborough. Great Wigborough. Salcott.
	MALDON	*Maldon.*	*Maldon* (part of) :— *Tollesbury.* *Tolleshunt D'Arcy.* *Tolleshunt Major.* *Goldhanger.* *Little Totham.* *Great Totham.* *Mayland.* *Latchingdon.* *Heybridge.* *Munden.* *Steeple.* *St. Lawrence.* *Bredwell-juxta-Mare* (part of).
			Maldon (part of) :— Bradwell-juxta-Mare (part of). Tillingham. Dengie. Southminster. Burnham. Creeksea. Althorne. Latchingdon. North Fambridge. Stow Maries.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Colchester (part of).			Rochford (part of) :— Hockley. Fambridge. Wallasea Island. Walkering. Ashingdon. Canewdon. Foulness (part of) :— Havengore (part of) :—
London (part of)	LONDON (part of).	*Southend* -	*Rochford* (part of) :— *Pagleshem.* *Great Stambridge.* *Little Stambridge.* *Rochford.* *Eastwood.* *Sutton.* *Shopland.* *Foulness* (part of) :— *Havengore* (part of) :— *Barling.* *Wakering* (*Great and Little*). *North Shoebury.* *South Shoebury.* *Southchurch.* *Leigh.* *Hadleigh.* *South Benfleet.* *Canvey Island.* *Billericay* :— *Bowers Gifford.* *Pitsea.* *Vange.* *Orsett* :— *Fobbing.* *Corringham.* *Stanford-le-Hope.* *Mucking.* *East Tilbury.* *West Tilbury.* *Chadwell.* *Little Thurrock.*
		Grays Thurrock.	*Stafford.* *West Thurrock.* *Aveley.* *Romford* :— *Wennington.* *Rainham.* *Hornchurch.* *Dagenham.*
		Barking. *East Ham.* *West Ham.* *Poplar.* *Limehouse.* *St. George-in-the East.* *Whitechapel.* *City of London.* *Temple.*	

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
London (part of)	London (part of).	*Strand.*	
		St. Martin-in-the-Fields.	
		St. Margaret and St. John Westminster.	
		St. George, Hanover Square.	
		Chelsea.	
		Fulham.	
		Hammersmith.	
		Chiswick.	
		Brentford.	
		Isleworth.	
		Twickenham.	
		Teddington.	
		Kingston-on-Thames.	
		Ham Common.	
		Richmond.	*Richmond*:— *Petersham.* *Mortlake.*
		Kew.	
		Barnes.	
		Wandsworth.	
		Battersea.	
		Lambeth.	
		St. Saviour.	
		St. Olave.	
		Bermondsey.	
		Rotherhithe.	
		Greenwich.	
		Woolwich.	
		Plumstead.	
		Erith.	
		Dartford.	*Dartford*:— *Crayford.* *Stone.* *Swanscombe.*
		Northfleet.	
		Gravesend.	
			Strood:— *Denton.* *Chalk.* *Shorne.* *Higham.* *Cliffe.*
			Hoo (part of):— *Cooling.* *High Halstow.* *St. Mary.* *All Hallows.* *Isle of Grain* (part of). *Stoke* (part of).
			Milton (part of):— *Iwade.*
		Queenborough.	
		Sheerness.	
			Sheppey:— *Minster.* *Eastchurch.* *Warden.*

Customs Port.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Rochester.	ROCHESTER.	*Strood.*	*Hoo* (part of):— *Isle of Grain* (part of). *Stoke* (part of). *Hoo.* *Strood* (part of):— *Frindsbury.* *Strood.* *Cuxstone.* *Halling.*
		Chatham. *Rochester.* *Gillingham.*	*Malling*:— *Snodland.* *Burham.* *Wouldham.* *Medway*:— *Grange.* *Milton* (part of):— *Rainham.* *Upchurch.* *Lower Halestow.* *Iwade* (part of).
Faversham.	FAVERSHAM.	*Milton-next-Sittingbourne.* *Sittingbourne.*	Sheppey (part of):— Leysdown (part of). *Sheppy* (part of):— *Leysdown* (part of). *Harty.* *Eastchurch.* *Elmley.* *Minster.* *Milton* (part of):— *Iwade* (part of). *Murston.* *Tonge.* *Teynham.* *Luddenham.* *Ore.* *Preston.*
		Faversham.	*Faversham.* *Graveney.*
		Herne Bay.	Blean:— Seasalter. Whitstable. Swalecliffe. Herne (part of). Herne (part of). Reculver (part of).

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Ramsgate.		Margate. Broadstairs and St. Peter. Ramsgate.	Blean (part of):— Reculver (part of). Chislet. Isle of Thanet (part of):— St. Nicholas-at-Wade. Birchington. Acol. St. John the Baptist. St. Peter. St. Lawrence. *Isle of Thanet* (part of):— *Minster*. *Stonar*.
Dover.	SANDWICH DEAL	*Sandwich*. *Deal*. *Walmer*. Dover. Folkstone (part of).	*Eastry* (part of):— *Worth*. Sholden. Dover:— Ringwold. St. Margaret-at-Cliffe. West Cliffe. Guston. Hougham. Capel-le-Ferne.
Folkestone.		Folkestone (part of). Sandgate. Hythe. New Romney. Lydd. Rye. Hastings.	Elham:— Cherton. Romney Marsh:— Dymchurch. St. Mary-in-the-Marsh. Rye:— Broomhill. Icklesham. Hastings:— Pett. Fairlight.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Newhaven.	Newhaven.	Bexhill.	Eastbourne:— Pevensey. Westham.
		Eastbourne.	Eastdean. Friston. Westdean.
		Seaford.	Newhaven (part of):— Bishopstone. Piddinghoe. Telscombe.
		Newhaven.	
Shoreham.	New Shoreham.	*Brighton.* *Hove.*	Newhaven (part of):— Rottingdean. Ovingdean.
			Steyning:— *Aldrington.* *Portslade.* *Southwick.* *Kingston-by-Sea.*
		New Shoreham.	*Lancing.*
		Worthing. West Worthing.	East Preston (part of):— West Tarring.
Littlehampton.	Littlehampton.	*Littlehampton.*	East Preston part of:— Goring. Ferring. Kingston. East Preston. Rustington.
			East Preston (part of):— *Climping.*
		Bognor.	West Hampnett:— Middleton. Felpham. Bersted.
			Pagham. North Mundham. Sidlesham. Selsey. Earnley. West Wittering. East Wittering. East Itchinor. Birdham. Appledram.
		Chichester.	Chichester:— Chichester.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Portsmouth.	PORTSMOUTH	*Havant.*	Westbourne :— Bosham. Chidham. Westbourne. West Thorney. *Havant* :— *Warblington.* *North Hayling.* *South Hayling.* *Bedhampton.* *Farlington* (part of).
		Portsmouth.	*Portsea Island* :— *Great Salterns.* *Fareham* (part of) :— *Farlington* (part of). *Widley.* *Wymering.* *Portchester.*
		Fareham. *Gosport and Alverstoke.*	
			Fareham (part of) :— Titchfield (part of).
Southampton.	SOUTHAMPTON.	*Shirley and Freemantle.* *Southampton.*	*Fareham* (part of) :— *Titchfield* (part of) *South Stoneham* :— *Bursledon.* *Hamble-le-Rice.* *Hound.* *Saint Mary Extra.* *Millbrook.* *New Forest* (part of) :— *Eling.* *Dibden.* *Fawley* (part of).
		Lymington.	New Forest (part of) :— Fawley (part of). Exbury. Beaulieu. Lymington :— Boldre. Milford. Hordle. Milton.
		Christchurch.	Christchurch :— Christchurch (part of).

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Cowes.	Cowes	*West Cowes.*	
		East Cowes.	
			Isle of Wight (part of) :—
			Whippingham (part of).
			Northwood (part of).
			Carisbrook.
		Newport.	
			Isle of Wight (part of) :—
			Whippingham (part of).
			Wootton.
			Arreton.
			Binstead.
		Ryde.	
		St. Helens.	
			Yaverland.
			Brading (part).
		Sandown.	
			Brading (part of).
		Shanklin.	
			Bonchurch.
		Ventnor.	
			Godshill.
			St. Lawrence.
			Whitwell.
			Niton.
			Chale.
			Shorwell.
			Brixton.
			Mottistone.
			Brook.
			Freshwater.
			Yarmouth.
			Thorley.
			Shalfleet.
			Calbourne.
			Northwood (part of).
Poole.	Poole	Bournemouth.	Christchurch (part of) :—
		Kinson.	Christchurch (part of).
		Poole - -	*Poole* :—
			Lytchet Minster.
			Wareham and Purbeck (part of) :—
			St. Martin.
		Wareham.	
			Arne.
			Corfe Castle (part of).
		Swanage (part of).	
			Studland (part of).
			Wareham and Purbeck (part of) :—
			Studland (part of).
		Swanage (part of).	
			Langton Matravers.
			Worth Matravers.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Weymouth.	WEYMOUTH	*Weymouth and Melcombe Regis.*	Wareham and Purbeck (part of) :— Corfe Castle (part of) Kimeridge. Steeple. Tyneham. East Lulworth. West Lulworth. Chaldon Herring. Weymouth (part of) :— Ower Moigne. Osmington. Preston. *Weymouth* (part of) :— *Radipole.* *Melcombe Regis.* *Wyke Regis.* *Weymouth.*
		Portland.	West Chicnell. Fleet. Langton Herring. Abbotsbury.
		Bridport.	Bridport :— Puncknowle. Swyre. Burton Bradstock. Symondsbury. Chideock. Stanton St. Gabriel. Axminster :— Charmouth.
Exeter (part of).		Lyme Regis.	Uplyme. Bonsdon. Axmouth. Colyton.
		Seaton.	Seaton.
		Sidmouth.	Honiton :— Branscombe. Salcombe Regis. St. Thomas (part of) :— Otterton. East Budleigh.
		Budleigh Salterton	Littleham.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Exeter (part of).	Exeter (part of).	*Exmouth.*	*St. Thomas* (part of) :— *Withycombe Raleigh.* *Lympston.* *Woodbury.* *Topsham.*
		Exeter.	
		St. Thomas-the-Apostle.	
			Alphington. *Exminster.* *Powderham.* *Kenton.* *Newton Abbot* (part of) :— *Dawlish* (part of).
		Dawlish.	
Teignmouth.	Teignmouth	*Teignmouth.*	*Newton Abbot* (part of) :— *Bishopsteignton.* *Stokeinteignhead* (part of). Newton Abbot (part of) :— Stokeinteignhead (part of).
		St. Mary's Church.	Cockington.
		Torquay.	
		Paignton.	
Dartmouth (part of).	Dartmouth	Lower Brixham	Totnes (part of) :— Churston Ferrers (part of). Brixham (part of).
			Totnes (part of) :— *Brixham* (part of). *Kingswear.* *Churston Ferrers* (part of). *Stoke Gabriel.* *Berry Pomeroy.*
		Totnes.	
			Ashprington. *Cornworthy.* *Dittisham.*
		Dartmouth (part of).	Dartmouth (part of).
			Kingsbridge (part of) :— Stoke Fleming. Blackawton. Slapton. Stokenham. Chivelstone.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Dartmouth (part of)	KINGSBRIDGE AND SALCOMBE	*Kingsbridge.*	*Kingsbridge* (part of) :— *East Portlemouth.* *South Pool.* *Charleton.* *Dodbrooke.* *West Alvington.* *Malborough* (part of).
		Salcombe.	Kingsbridge (part of). Malborough (part of). South Hewish. South Milton. Thurlestone. Aveton Gifford. Bigbury. Ringmore. Kingston. Modbury.
Plymouth.	PLYMOUTH.	*Plymouth.* *East Stonehouse.*	Plympton St. Mary (part of) :— Holbeton. Revelstoke. Newton Ferrers. Yealmpton. Brixton. Wembury. *Plympton St. Mary* (part of) :— *Plymstock.* *Plympton St. Mary.* *Egg Buckland.*
		Devonport	*Pennycross.* *St. Budeaux.* *Tamerton Folliott.* *Beer Ferris.*
		Saltash.	*St. Germans* (part of) :— *Pillaton.* *Landulph.* *Botus Fleming.* *St. Stephens.* *Landrake-with-St.Erney* *St. Germans* (part of). *Sheviock* (part of). *Antony* (part of). *St. John* (part of). *Maker.*
			St. Germans (part of) :— Rame. St. John (part of). Antony (part of). Sheviock (part of). St. Germans (part of).

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Fowey.	FOWEY		Liskeard (part of) :— St. Martin. *Liskeard* (part of) :— *East Hove.* *West Hove.* *Talland.* *Lansallos.* *Lanteglos.* *St. Veep.* *St. Austell* (part of) :— *Fowey.* *St. Sampson.* *Tywaddreath.* *St. Blazey.* *St. Austell.* *Mevagissey.* St. Austell (part of) :— Gorran (part of).
Falmouth (part of).	FALMOUTH AND TRURO (part of).	*Truro.* *Penryn.* *Falmouth.*	St. Austell (part of):— Gorran (part of). St. Michael Caerhays. Truro (part of :— Veryan (part of). Philleigh (part of). Gerrans (part of). St. Anthony-in-Roseland (part of). *Truro* (part of) :— *St.Anthony-in-Roseland* (part of). *Gerrans* ((part of). *St. Just in Roseland.* *Philleigh* (part of). *Ruan Lanihorne.* *Veryan* (part of). *Cornelly.* *Lamorran.* *St. Michael Penkivel.* *Merther.* *St. Clement.* *Kewyn.* *Kea.* *Feock.* *Falmouth* (part of) :— *Perranarworthal.* *Mylor.* *Budock.* *Mawnan.* *Constantine.*

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Falmouth (part of).	FALMOUTH AND TRURO (part of).		*Helston* (part of) :— *Wendron* (part of). *Mawgan-in-Meneage.* *St. Martin-in-Meneage.* *Manaccan.* *St. Antony-in-Meneage.* St. Keverne. Grade (part of). Ruan Minor. Grade (part of). Landewednack (part of).
Penzance.	PENZANCE	Helston.	Helston (part of) :— Landewednack (part of). Mullion. Gunwalloe. Wendron (part of). Sithney. Breage. Penzance (part of) :— St. Hilary (part of).
		Ludgvan.	*Penzance* (part of) :— *St. Hilary* (part of). *Perranuthnoe.* *Marazion.* *Gulval.*
		Penzance. *Madron.* *St. Paul.*	Penzance (part of) :— St. Burian. St. Levan. Sennen. St. Just. Morvah. Zennor. Towednack.
	HAYLE	St. Ives.	*Penzance* (part of) :— *Uny Lelant.*
		Hayle. *Phillack.*	Redruth :— Gwithian. Illogan. Truro (part of) :— St. Agnes. Perranzabuloe.
		Camborne.	
Isles of Scilly.	ISLES OF SCILLY.		*Scilly Islands* :— *St. Mary.* *St. Martin.* *Tresco.* *Bryher.* *St. Agnes.*

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Padstow.	PADSTOW.	*Padstow.*	Truro (part of) :— Perranzabuloe. St. Columb Major (part of) :— Cubert. Crantock. New Quay. St. Columb Minor. Mawgan-in-Pyder. St. Eval. St. Merryn. Padstow (part of). *St. Columb Major* (part of) :— *Padstow* (part of). *Little Petherick.* *St. Issey.* *St. Breock.* *Bodmin* (part of) :— *St. Kew.* *Egloshayle.* *St. Minver Lowlands.* *St. Minver Highlands* (part of). Bodmin (part of) :— St. Minver Highlands (part of). St. Endellion. Camelford :— St. Teath. Tintagel. Trevalga. Forrabury. Minster. St. Juliot. Stratton (part of) :— St. Gennys (part of).
Barnstaple (part of).	BARNSTAPLE (part of).	Northam (part of). *Northam* (part of) :— *Bideford.*	Stratton (part of) :— St. Gennys (part of). Poundstock. Marhamchurch. Stratton. Poughill. Kilkhampton. Moorwinstow. Bideford :— Welcombe. Hartland. Clovelly. Woolfardisworthy. Parkham. Alwington. Abbotsham.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Barnstaple (part of).	BARNSTAPLE (part of).	*Barnstaple.*	*Barnstaple* (part of):— *Westleigh.* *Instow.* *Fremington.* *Tawstock.* *Pilton.* *Ashford.* *Heanton Punchardon.* *Braunton* (part of).
			Barnstaple (part of):— Braunton (part of). Georgeham. Morthoe.
		Ilfracombe.	Berrynarbor. Combemartin. Trentishoe. Martinoe.
		Lynton.	Countesbury.
Bridgwater.	BRIDGWATER	Minehead.	Williton:— Oare. Culbone. Porlock. Luccombe. Selworthy. Dunster. Carhampton. Old Cleeve. St. Decumans. West Quantoxhead. East Quantoxhead. Kilve. Kilton-with-Lilstock. Stogursey.
			Bridgwater (part of):— Stockland Bristol.
		Bridgwater.	*Bridgwater* (part of):— *Otterhampton.* *Cannington.* *Wembdon.* *Chilton-Trinity* (part of).
			Chilton-Trinity (part of). *Puriton.* *Pawlet.* *Huntspill.*
		Burnham.	*Axbridge* (part of):— *Burnham.*
			Axbridge (part of):— Berrow. Brean.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Bristol.	Bristol (part of).	Weston-super-Mare.	Axbridge (part of):— Uphill.
			Kewstoke. *Wick, St. Lawrence.*
		Clevedon.	*Bedminster* (part of):— *Kingston Seymour.*
			Walton-in-Gordano. *Weston-in-Gordano.* *Portishead.* *Portbury.* *Easton-in-Gordano.* *Abbots Leigh.* *Long Ashton.* *Bedminster.*
		Bristol.	*Barton Regis*:— *Westbury-upon-Trym.* *Shirehampton.* *Henbury.*
Gloucester (part of).	Gloucester		*Thornbury* (part of):— *Redwick and Northwick.* *Aust.* *Littleton.* *Thornbury.* *Hill.* *Ham and Stone.* *Hamfallow.* *Hinton.* *Dursley*:— *Slimbridge* (part of)
			Wheatenhurst:— *Frampton-upon-Severn.* *Fretherne-with-Arlingham.* *Wheatenhurst.* *Moreton Valence.* *Standish.* *Haresfield.* *Hardwicke.*
		Gloucester	*Gloucester*:— *Quedgeley.* *Hempstead.* Highnam Over and Linton.
		Westbury-upon-Severn. Newnham.	Westbury-upon-Sever:— Minsterworth.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Gloucester (part of).	CHEPSTOW	Awre.	
		Chepstow.	Chepstow (part of) :— Lydney. Aylburton. Alvington. Woolaston. Tidenham (part of). *Chepstow* (part of) :— *Tidenham* (part of). *St. Arvans.* *Matherne.* Chepstow (part of) :— Portskewett. Caldicot. Ifton. Roggiett. Undy. Magor.
Newport.	NEWPORT	*Newport.*	*Newport* :— *Redwick.* *Goldcliffe.* *Nash.* *St. Bride Wentlooge.* *Peterstone.* *Cardiff* (part of) :— *Rumney.*
Cardiff.	CARDIFF	*Cardiff.* *Penarth.*	*Cardiff* (part of) :— *Lavernock.*
	BARRY AND CADOXTON.	*Barry and Cadoxton.*	*Cardiff* (part of) :— *Sully.* *Porth Kerry.* *Penmark.* *Bridgend and Cowbridge* (part of) :— *St. Athan.* *Gileston.* Bridgend and Cowbridge (part of) :— Llantwit Major. St. Donat. Marcross.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Swansea.	SWANSEA.	*Margam.*	*Bridgend and Cowbridge* (part of):— *Monknash.* *Wick.* *St. Brides Major.* *Merthyr Mawr.* *Newton Nottage.* *Sker.* *Pyle.* *Kenfig.*
		Aberavon.	
		Briton Ferry.	
		Neath.	*Neath*:— *Blaenhonddan.* *Coedffrane.* *Dyffryn Clydach.* *Lower Baglan.*
		Swansea.	*Swansea*:— *Llansamlet, Higher.* *Swansea, Higher and Lower.*
		Oystermouth.	*Gower* (part of):— *Oystermouth* (part of). Gower (part of):— Oystermouth (part of). Bishopston. Penard. Penmaen. Nicholaston. Oxwich. Penrice. Port Eynon. Rhossili. Llangenydd. Llanmadog (part of).
Llanelly (part of).			Gower (part of):— Llanmadog (part of). Cheriton. Llanrhidian, Lower. Llanrhidian, Higher.
		Llanelly.	Llanelly:— Loughnor Borough. Llanelly.
		Kidwelly.	Llangennech. Llanedy. Pembre.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Llanelly (part of).		Carmarthen.	Carmarthen :— St. Ishmael. Llandyfaelog, Langunnor. Llangain. Llanstephen. Llandeilo Abercywyn. LlanfihangelAbercywyn Laugharne (part of). Llansadurnen. Laugharne (part of). Narbeth :— Pendine. Marros. Amroth. St. Issells.
Milford (part of).	Milford (part of).	Tenby. *Pembroke.*	Pembroke (part of) :— St. Mary-out-Liberty. Penally. Manorbier. Caldy Island. Hodgeston. Lamphey. Stackpole Elidor. St. Petrox. Bosheston. St. Twynnell. Warren. Castle Martin. Angle (part of). *Pembroke* (part of) :— *Angle* (part of). *Rhoscrowther.* *Pwllcrochan.* *Monkton.* *Cosheston.* *Upton.* *Carew.* *Lawrenny.* *Narbeth* (part of) :— *Jeffreyston.* *Coedcanlass.* *Martletwy.* *Minwear.* *Newton.* *Robeston Wathen.* *Slebech.*

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Milford (part of).	Milford (part of).	*Haverfordwest.*	*Haverfordwest* (part of):— *Boulston.* *Uzmaston.* *Haroldtson St. Issells.* *Freystrop.* *Langwm.* *Pembroke* (part of):— *Burton.* *Rosemarket.* *Llanstadwell.* *Haverfordwest* (part of):— *Steynton.*
		Milford.	*Hubberston.* *Herbrandston.* *Robeston.* *Walwyns Castle.* *Hasguard.* *St. Ishmaels.* *Dale* (part of). Haverfordwest (part of):— Dale (part of). Marloes. St. Brides. Talbenny. Walton West. Haroldston West. Nolton. Roch. Brawdy. St. Elvis. Whitchurch. St. Davids (part of). Ramsey Island.
Cardigan (part of).	Cardigan.	*Cardigan.*	Haverfordwest (part of):— St. David's (part of). Llanrian. Mathry. Granston. Llanwnda. Fishguard. Cardigan (part of):— Dinas. Newport. Nevern. Moylgrove. *St. Dogmells* (part of). *Cardigan* (part of):— *St. Dogmells* (part of). *Verwick* (part of). Cardigan (part of):— Verwick (part of). Mount. Aberporth. Blaenporth.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Cardigan (part of).			Newcastle-in-Emlyn :— Pembryn. Llangranog. Aberayron (part of) :— Llandisilio Gogo. Llanllwchaiarn.
Aberystwith.		New Quay.	Aberayron (part of). Llanina. Llanarth. Henfynyw.
		Aberayron.	Llanddewi Aberarth. Llansantffraid.
		Aberystwyth.	Aberystwith :— Llanrhystyd Haminiog. Llanrhystyd Mefenydd. Llanddeinol. Llanychaiarn. Lower Vainor. Clarach. Cyfoeth-y-Brenin. Henllys. Llancynfelin.
		Towyn.	Machynlleth :— Scybor-y-Coed. Dolgelley :— Llanegryn. Llangelynin.
		Barmouth.	Llanaber. Llanddwywe-is-y-Graig. Llanenddwyn.
Carnarvon (part of).		Festiniog.	Festiniog :— Llanbedr. Llandanwg. Llanfihangel-y-Traethau. Llandecwyn. Llanfrothen.
		Ynyscynhaiarn (Port Madoc).	Treflys.
		Criccieth.	Pwllheli :— Criccieth. Llanystumdwy. Abererch.
		Pwllheli.	

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Carnarvon (part of).	CARNARVON (part of).	*Carnarvon.*	Penrhos. Llanbedrog. Llangian. Llanengan. Llandegwning. Rhiw-with-Llanfaelrhys. Aberdaron. Bardsey Isle. Bodferin. Llangwnadle. Penllech. Tydweiliog. Edeyrn. Nevin. Pistill. Llanaelhaiarn. *Carnarvon* (part of) :— *Clynnog.* *Llandwrog.* *Llanwnda.* *Llanfaglan.* *Llanfair-is-Gaer.* *Bangor and Beaumaris* (part of) :— *Bangor* (part of). *Llandisilio* (part of). *Llanfair-pwllgwyngyll.* *Llanedwen.* *Carnarvon* (part of) :— *Llanidan.* *Llangeinwen.* *St. Peters, Newborouyh.* *Bangor and Beaumaris* (part of) :— *Llangadwaladr* (part of).
Beaumaris (part of).		Holyhead.	Bangor and Beaumaris (part of) :— Llangadwaladr (part of). Holyhead :— Aberffraw. Llangwyfan. Llanfaelog. Llechylched. Llanfihangel-yn-Nhowyn. Llanfairynewbwll. Rhoscolyn. Holyhead. Llanynghenedl. Llanfachreth. Llanfwrog. Llanfaethly. Llanrhyddlad.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
			Anglesey :— Llanfairynghornwy. Llanrhwydrys. Llanfechell. Llanbadrig. Amlwch. Llaneilian. Llanwenllwyfo. Penrhoslligwy. Llanallgo. Llaneugrad. Llanfair-Mathafarn-Eithaf. Llanddyfnan. Llanbedr-Gôch.
			Bangor and Beaumaris (part of) :— Pentraeth. Llanddona. Llanfihangel-Tyn-Sylwy Llangoed. Penmon (part of).
Beaumaris (part of).	Beaumaris.	*Beaumaris.*	*Bangor and Beaumaris* (part of) :— *Penmon* (part of). *Llandegfan.*
		Menai Bridge.	*Llandisilio* (part of). *Bangor* (part of).
		Bangor.	*Llandegai.* *Llanllechid* *Aber.*
		Llanfairfechan. *Penmaenmawr.* *Conway.*	*Conway* :— *Eglwys Rhôs* (part of). *Gyffin.* *Llangystennin.*
		Llandudno.	Eglwys Rhôs (part of).
		Colwyn Bay.	Llysfaen.
			St. Asaph (part of) :— Llanddulas. Abergele (part of).
		Abergele.	Abergele (part of).

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Chester.	CHESTER.	*Rhyl.*	*St. Asaph* (part of) :—
			Rhuddlan.
			Dyserth.
			Meliden.
			Holywell :—
			Llanasa.
			Whitford.
			Holywell (part of).
		Holywell.	
			Holywell (part of).
		Flint.	
			Northop.
			Hawarden :—
			Saltney.
		Chester.	
			Hawarden.
			Wirrall (part of) :—
			Puddington.
			Burton.
			Ness.
		Weston.	
			Gayton.
			Heswall with-Oldfield.
			Thurstaston.
			Caldy.
			West Kirkby.
			Little Meolose (part of).
Liverpool.	LIVERPOOL (part of).		*Wirrall* (part of) :—
			Little Meolose (part of).
			Hoose.
			Great Meolose.
		Wallasy.	
		Birkenhead.	
		Lower Bebington.	
		Bromborough.	
			Wirral (part of) :—
			Eastham.
			Hooton.
			Netherpool.
			Whitby.
			Chester (part of) :—
			Great Stanney.
			Stanlow.
			Ince (part of).
			Prescot (part of) :—
			Hale (part of).
			Speke.
		Garston.	
		Toxteth Park.	
		Liverpool.	
		Bootle-cum-Linacre.	
		Waterloo-with-Seaforth.	
		Great Crosby.	
		Little Crosby.	
			Ormskirk (part or) :—
			Formby.
		Birkdale.	
		Southport.	
			North Meols (part of).

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
			Wirrall (part of) :— Eastham (part of). Hooton (part of). Netherthorpe (part of). Whitby (part of).
			Chester (part of) :— Great Stanney (part of). Stanlow (part of). Ince (part of).
			Runcorn :— Frodsham. Weston.
		Runcorn.	Halton. Norton. Moore. Acton Grange. Walton Inferior. Appleton.
			Warrington (part of) :— Latchford (part of). Grappenhall (part of). Thelwall.
		Lymm (part of).	Altringham :— Warburton. Partington.
Manchester.			Carrington.
			Barton - upon - Irwell (part of) :— Flixton (part of). Barton - upon - Irwell (part of).
		Stretford. Manchester. Salford. Eccles.	
			Barton - upon - Irwell (part of) :— Barton - upon - Irwell (part of). Flixton (part of).
		Irlam.	
			Warrington (part of) :— Grappenhall (part of).
		Lymm (part of).	Latchford (part of).
		Warrington.	Penketh. Cuerdley.
		Widnes.	
			Prescot (part of) :— Halewood. Hale (part of).

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Preston.	PRESTON	*Preston.*	*Ormskirk* (part of) :— *North Meols* (part of). *Hesketh-with-Becconsall.* *Preston* :— *Little Hoole.* *Longton.* *Hutton.* *Howick.* *Penwortham.* *Lea Ashton, Ingol, and Cottam.*
		Lytham. *St. Anne's-on-the-Sea.* Blackpool (part of).	*Fylde* (part of) :— *Clifton-with-Salwick.* *Newton-with-Scales.* *Freckleton.* *Warton.*
Fleetwood.	FLEETWOOD	Blackpool (part of). Fleetwood (part of). *Fleetwood* (part of).	Fylde (part of) :— Bispham and Norbreck. Thornton. *Fylde* (part of) :— *Singleton.* *Little Ecclestone.* *Garstang* (part of) :— *Out Rawcliffe.* *Hambleton.* *Stalmine-with-Stainall.* *Preesall-with-Hackinsall.* *Pilling* (part of).
Lancaster (part of.)	LANCASTER	*Lancaster.*	*Garstang* (part of) :— *Pilling* (part of). *Lancaster* (part of) :— *Cockerham.* *Cockersand Abbey.* *Thurnham.* *Ashton-with-Stodday.* *Aldcliffe.* *Skerton.* *Heaton-with-Oxcliffe.* *Overton* (part of).

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Lancaster (part of).		Morecambe.	Lancaster (part of) :— Overton (part of). Middleton. Heysham. Slyne-with-Hest. Bolton-le-Sands. Carnforth. Warton-with-Lindeth. Silverdale. Kendal :— Beetham. Haverbrack. Heversham-with-Minthorpe. Levens. Crosthwaite and Lyth. Witherslack. Meathop and Ulpha.
		Grange.	Ulverston (part of) :— Lower Allithwaite. Lower Holker. Upper Holker.
Barrow (part of).		Ulverston.	Ulverston (part of) :— Colton. Egton-with-Newland. Urswick. Aldingham.
		Barrow-in-Furness. Dalton.	Ulverston (part of) :— Kirkby Ireleth. Angerton. West Broughton.
Whitehaven.		Millom.	Bootle :— Millom. Wickham. Whitbeck. Bootle. Waberthwaite. Muncaster. Drigg.
		Whitehaven.	Whitehaven (part of) :— Gosforth. Ponsonby. St. Bridget Beckermet. Lowside Quarter. St. Bees. Preston Quarter. Rottington. Sandwith. Parton.

Customs Ports.	Port Sanitary Districts.	Urban Sanitary Districts.	Rural Sanitary Districts and Riparian Parishes.
Workington.	WORKINGTON	*Harrington.* *Workington.*	*Cockermouth* :— *Seaton.*
Maryport.		Maryport.	Cockermouth (part of) :— Flimby. Crosscanonby. Oughterside and Allerby. Wigton (part of) :— Hayton and Mealo. West Newton and Allonby (part of).
Carlisle.		Holme Cultram. Carlisle.	Wigton (part of) :— West Newton and Allonby. Kirkbride. Aikton. Bowness. Carlisle :— Burgh-by-Sands. Beaumont. Kirkandrews-upon-Eden. Grinsdale. Caldewgate. Stanwix. Rockliff. Longtown :— Kirkandrews Nether.

ADDENDUM C. No. 1.

FORM OF REPORT OF PORT SANITARY INSPECTION.

[Sheet I.

Date of Inspection 189 .

Port Sanitary District.

Customs Port.

Date of Order constituting (permanently or temporarily) Port Sanitary District:—

1. Constitution of Port Sanitary Authority. (Note whether Joint Board or not, and also whether it exercises Port functions in other Sanitary Districts besides its own):—

2. Limits of Jurisdiction (? satissfactory):—

3. Riparian Districts included (wholly or in part) in the Port Sanitary District:—

4. Apportionment of Expenses:—

5. General Character and Effciency of Administration:—

Port Sanitary District. [Sheet II.

6. PORTS FROM WHENCE SHIPS ARRIVE. (Ports or places (British and foreign) with which Port Sanitary District has most trade, or is in most frequent communication to be UNDERLINED):—

7. CHARACTER OF TRADE. (Imports, exports, rags, passengers, immigrants, transmigrants, &c.):—

8. AMOUNT OF SHIPPING INWARDS DURING THREE YEARS, 1890-91-92:—

Class of Vessels.	1890.		1891.		1892.	
	Number.	Tonnage.	Number.	Tonnage.	Number.	Tonnage.
Foreign { Steamers -						
Foreign { Sailing -						
Foreign { Fishing -						
Total Foreign -						
Coastwise { Steamers -						
Coastwise { Sailing -						
Coastwise { Fishing -						
Total Coastwise -						

9. INLAND WATER COMMUNICATION (if any, and what supervision of it?):—

10. LINES OF RAILWAY CONVEYING GOODS FROM PORT:—

Port Sanitary District. [Sheet III.

11. Medical Officer of Health. Name :—
Qualifications :— Salary *l.* Repayment.
Other Sanitary offices :—
Character and efficiency of work done by Medical Officer of Health :—

12. Inspector of Nuisances. Name :—
Qualifications :— Salary *l.* Repayment.
Other offices :—
Character and efficiency of work done by Inspector of Nuisances :—

13. Nuisances. Habitual efficient dealing with—number of vessels inspected, foreign and coastwise, respectively during 1890–91–92, with number reported defective and number of orders issued in each year :—

Inspection of Shipping in 1890–91–92.

	Class of Vessels.		Number inspected.	Number reported to be Defective.	Number of Orders issued.
1890	Foreign	Steamers - - -			
		Sailing - - -			
		Fishing - - -			
		Total Foreign - -			
	Coastwise.	Steamers - - -			
		Sailing - - -			
		Fishing - - -			
		Total Coastwise - -			
1891	Foreign	Steamers - - -			
		Sailing - - -			
		Fishing - - -			
		Total Foreign - -			
	Coastwise.	Steamers - - -			
		Sailing - - -			
		Fishing - - -			
		Total Coastwise - -			
1892	Foreign	Steamers - - -			
		Sailing - - -			
		Fishing - - -			
		Total Foreign - -			
	Coastwise.	Steamers - - -			
		Sailing - - -			
		Fishing - - -			
		Total Coastwise - -			

14. Isolation Hospital. Date of erection—situation—distance from docks or landing stages—character and amount of accommodation—state of preparedness—conveyance of sufferers to hospital—ability to extend accommodation—water supply—drainage—excrement disposal—laundry, &c. :—

15. Disinfecting Apparatus. Character — efficiency — suitability of situation for disinfection of goods from shipping :—

16. Mortuary. Situation—character :—

17. Regulations under Section 125 Public Health Act, 1875. Date of approval—character—(annex copy).

18. Infectious Disease (Notification) Act, 1889. Date of adoption. Diseases added, and date of addition :—

Port Sanitary District. [Sheet V.

ARRANGEMENTS MADE TO CARRY OUT THE BOARDS CHOLERA ORDERS.

a. CUSTOMS BOARDING STATION OR STATIONS :—

b. ARRANGEMENTS AS TO DETENTION OF VESSELS BY OFFICERS OF CUSTOMS AND COASTGUARD AND BY PILOTS :—

c. ARRANGEMENTS FOR COMMUNICATION BETWEEN OFFICIALS DETAINING VESSELS AND MEDICAL OFFICER OF HEALTH :—

d. MEANS PROVIDED, OR FACILITIES GIVEN FOR CONVEYANCE OF MEDICAL OFFICER OF HEALTH TO SHIPS—Steam launch—boat—property of Port Sanitary Authority or otherwise :—

e. MOORING STATION :—(? Satisfactory.) [If the mooring station be not yet selected, be about to be altered, or has been appointed in disregard of necessary procedure, the Inspector should obtain from the Customs and other local people information as to the most appropriate site for a mooring station.]

Port Sanitary District. [Sheet VI.

f. Inspection of Vessels ("infected" or from "infected port"):—

g. Examination of Persons on Vessels ("infected" or from "infected port"):—

h. Address Book:—

i. Special Isolation Provision for Cholera:—

k. Arrangements for Isolation of Persons suspected to be Suffering from Cholera:—

l. Means provided for Transfer of Infected Persons from Ship to Hospital:—

m. Arrangements made for Disinfection of (*a*) Clothes, (*b*) Ship, (*c*) Goods:—

n. Arrangements made as to the Disposal of the Dead:—

o. Action as to Water Supply of Vessels from Infected Ports:—

p. Action as to Bilges of Vessels from Infected Ports:—

Port Sanitary District. [Sheet VII.

Observations and comments on particular Sanitary Conditions or on points not specified in forgoing sheets.

Port Sanitary District. [Sheet VIII.

Date of Preliminary Interview: With whom? Advice given.

Signed

Date , 189 .

ADDENDUM C. No 2.

General Cholera Order.

To all Port Sanitary Authorities;—
To all other Sanitary Authorities as herein defined;—
To the Queen's Harbour Masters of Dockyard Ports;—
To all Officers of Customs;—
To all Medical Officers of Health of the Sanitary Authorities aforesaid;—
To all Masters of Ships;—
To all Pilots;—
And to all others whom it may concern.

Whereas We, the Local Government Board, are empowered by Section 130 of the Public Health Act, 1875, from time to time, to make, alter, and revoke such regulations as to Us may seem fit, with a view to the treatment of persons affected with cholera, and preventing the spread of Cholera, as well on the seas, rivers, and waters of the United Kingdom, and on the high seas within three miles of the coasts thereof, as on land; and may declare by what Authority or Authorities such Regulations shall be enforced and executed;

And whereas by Section 2 of the Public Health Act, 1889, it is enacted that Regulations of the Local Government Board made in relation to Cholera and Choleraic Diarrhœa, in pursuance of Section 130 of the Public Health Act, 1875, may provide for such regulations being enforced and executed by the Officers of Customs, as well as by other Authorities and Officers, and without prejudice to the generality of the powers conferred by the said Section, may provide for the detention of vessels and of persons on board vessels, and for the duties to be performed by Pilots, Masters of Vessels, and other persons on board vessels; provided that the Regulations so far as they apply to the Officers of Customs, shall be subject to the consent of the Commissioners of Her Majesty's Customs;

And whereas by certain Orders dated the 12th day of July, 1883, and an Order dated the 21st day of April, 1884, We prescribed Rules and Regulations with a view to the treatment of persons affected with Cholera, and for preventing the spread of the disease, and it is expedient that such Orders should be revoked, and that further Regulations should be prescribed as herein-after mentioned, to which the Commissioners of Her Majesty's Customs have signified their consent so far as such Regulations apply to the Officers of Customs;

Now therefore, We, the Local Government Board, do hereby revoke the aforesaid Orders, except in so far as they may apply to any proceedings now pending, and We do, by this Our Order, and in exercise of the power conferred on Us by the Public Health Act, 1875, as amended and extended by the Public Health Act, 1889, and every other power enabling Us in that behalf, make the following Regulations, and Declare that they shall be enforced and executed by the Authorities herein-after named:—

Definitions.

Art. 1.—In this Order—

The term "Ship" includes vessel or boat:

The term "Officer of Customs" includes any person acting under the authority of the Commissioners of Her Majesty's Customs.

The term "Master" includes the officer, pilot, or other person for the time being in charge or command of the ship;

The term "Cholera" includes Choleraic Diarrhœa;

The term "Sanitary Authority" means every Port Sanitary Authority and every Urban or Rural Sanitary Authority whose district includes or abuts on any part of a customs port, which part is not within the jurisdiction of a Port Sanitary Authority;

The term "Medical Officer of Health" includes any duly qualified Medical Practitioner appointed by a Sanitary Authority to act in the execution of this Order;

For the purposes of this Order,—

(1.) So much of a customs port abutting on an Urban or Rural Sanitary District as is nearer to such District than to any other, and is not included within the jurisdiction of any Port Sanitary Authority, shall be deemed to be within such District;

(2.) Every ship shall be deemed infected with Cholera, in which there is or has been during the voyage or during the stay of such ship in a port in the course of such voyage, any case of Cholera.

I.—*Regulations as to Detention by Officers of Customs.*

Art. 2.—If any Officer of Customs, on the arrival of any ship, ascertain from the Master of such ship or otherwise, or have reason to suspect that the ship is infected with Cholera, he shall detain such ship, and order the Master forthwith to moor or anchor the same in such position as such Officer of Customs shall direct; and thereupon the Master shall forthwith moor or anchor the ship accordingly.

Art. 3.—While such ship shall be so detained, no person shall leave the same.

Art. 4.—The Officer of Customs detaining any ship as aforesaid shall forthwith give notice thereof, and of the cause of such detention, to the Sanitary Authority of the place to which the ship shall be bound, or where the ship shall be about to call.

Art. 5.—Such detention by the Officer of Customs shall cease as soon as the ship shall have been duly visited and examined by the Medical Officer of Health; or, if the ship shall, upon such examination, be found to be infected with Cholera, as soo nas the same shall be moored or anchored in pursuance of Article 10 of this Order.

Provided, that if the examination be not commenced within twelve hours after notice given as aforesaid, the ship shall, on the expiration of the said twelve hours, be released from detention.

II.—*Regulations as to Sanitary Authorities.*

Art. 6.—Every Port Sanitary Authority and every other Sanitary Authority within whose district persons are likely to be landed from any ship coming foreign shall, as speedily as practicable, with the approval of the Chief Officer of Customs of the port, fix some place where any ship may be moored, or anchored, for the purpose of Article 10; and shall make provision for the reception of Cholera patients and persons suffering from illness removed under Articles 13 and 14. The place to be fixed as aforesaid, where any ship may be moored or anchored for the purpose of Article 10, shall be some place within the jurisdiction or district of the Sanitary Authority, unless the Local Government Board otherwise consent: in which case the place so fixed shall, for the purposes of this Order, be deemed to be within such jurisdiction or district.

Provided that in the case of any Dockyard Port for which a Queen's Harbour Master has been appointed the place where any ship shall be moored or anchored for the purpose of this Article shall from time to time be fixed by the Port Sanitary Authority with the approval of the Queen's Harbour Master, instead of with that of the Chief Officer of Customs of the port.

Provided also, that where, in pursuance of any of the above-cited Orders, places have been duly fixed for the mooring or anchoring of ships for the like purpose, such places shall be deemed to have been so fixed in pursuance of this Order.

Art. 7.—The Sanitary Authority, on notice being given to them by an Officer of Customs, under this Order, shall forthwith cause the ship in regard to which such notice shall have been given, to be visited and examined by their Medical Officer of Health for the purpose of ascertaining whether she is infected with Cholera.

Art. 8.—The Medical Officer of Health, if he have reason to believe that any ship coming or being within the jurisdiction or district of the Sanitary

Authority, whether examined by the Officer of Customs or not, is infected with Cholera, shall, or if she have come from a place infected with cholera may, visit and examine such ship, for the purpose of ascertaining whether she is so infected; and the Master of such ship shall permit the same to be so visited and examined.

Art. 9.—If the Medical Officer of Health on making such examination as aforesaid (whether under Article 7 or under Article 8), shall be of opinion that the ship is infected, he shall forthwith give a certificate in duplicate in the following Form, or to the like effect, and shall deliver one copy to the Master, and retain the other copy or transmit it to the Sanitary Authority. He shall also give to the Local Government Board information as to the arrival of the ship, and such other particulars as that Board may require.

Certificate.

day of 189 .

Sanitary Authority of

I hereby certify that I have examined the ship
of , now lying in the Port of [or
detained at] and that I find that she is infected
with Cholera.

Medical Officer of Health [or Medical Practitioner appointed by the Sanitary Authority].

Art. 10.—The Master of any ship so certified to be infected with Cholera shall thereupon moor or anchor her at the place fixed for that purpose under Article 6, and she shall remain there until the requirements of this Order have been duly fulfilled.

Art. 11.—No person shall leave any such ship until the examination herein-after mentioned shall have been made.

Art. 12.—The Medical Officer of Health shall, as soon as possible after any such ship has been certified to be infected with Cholera, examine every person on board the same, and in the case of any person suffering from Cholera, or from any illness which the Medical Officer of Health suspects may prove to be Cholera, shall certify accordingly; and any person who shall not be so certified by him shall be permitted to land immediately on giving to the Medical Officer of Health his name and place of destination, stating, where practicable, his address at such place.

The name and address of any such person shall forthwith be given by the Medical Officer of Health to the Clerk to the Sanitary Authority, and such Clerk shall thereupon transmit the same to the Local Authority of the District in which the place of destination of such person is situate.

In this Article the term "Local Authority" means any Urban or Rural Sanitary Authority; and in the Administrative County of London, the Commissioners of Sewers, the Vestry under the Metropolis Management Act, 1855, of a Parish in Schedule A., and the District Board of a District in Schedule B. to that Act, as amended by the Metropolis Management Amendment Act, 1885, and the Metropolis Management (Battersea and Westminster) Act, 1887, and the Woolwich Local Board of Health.

Art. 13.—Every person certified by the Medical Officer of Health to be suffering from Cholera shall be removed, if his condition admit of it, to some hospital or other suitable place appointed for that purpose by the Sanitary Authority; and no person so removed shall leave such hospital or place until the Medical Officer of Health shall have certified that such person is free from the said disease.

If any person suffering from Cholera cannot be removed, the ship shall remain subject, for the purposes of this Order, to the control of the Medical Officer of Health; and the infected person shall not be removed from or leave the ship, except with the consent in writing of the Medical Officer of Health.

Art. 14.—Any person certified by the Medical Officer of Health to be suffering from any illness which such Officer suspects may prove to be

Cholera, may either be detained on board the ship for any period not exceeding two days, or be taken to some hospital or other suitable place appointed for that purpose by the Sanitary Authority, and detained there, for a like period, in order that it may be ascertained whether the illness is or is not Cholera.

Any such person who, while so detained, shall be certified by the Medical Officer of Health to be suffering from Cholera, shall be dealt with as provided by Article 13 of this Order.

Art. 15.—The Medical Officer of Health shall, in the case of every ship certified to be infected, give directions, and take such steps as may appear to him to be necessary, for preventing the spread of infection, and the Master of the said ship shall forthwith carry into execution such directions as shall be so given to him.

Art. 16.—In the event of any death from Cholera taking place on board such ship while detained under Article 10, the Master shall, as directed by the Sanitary Authority or the Medical Officer of Health, either cause the dead body to be taken out to sea, and committed to the deep, properly loaded to prevent its rising, or shall deliver it into the charge of the said Authority for interment; and the Authority shall thereupon have the same interred.

Art. 17.—The Master shall cause any articles that may have been soiled with Cholera discharges to be destroyed, and the clothing and bedding and other articles of personal use likely to retain infection which have been used by any person who may have suffered from Cholera on board such ship, or who, having left such ship, shall have suffered from Cholera during the stay of such ship in any Port, to be disinfected or (if necessary) destroyed; and if the Master shall have neglected to do so before the ship arrives in port, he shall forthwith, upon the direction of the Sanitary Authority or the Medical Officer of Health, cause the same to be disinfected or destroyed, as the case may require; and if the said Master neglect to comply with such direction within a reasonable time, the Authority shall cause the same to be carried into execution.

Art. 18.—The Master shall cause the ship to be disinfected, and every article therein, other than those last described, which may probably be infected with Cholera, to be disinfected or destroyed, according to the directions of the Medical Officer of Health.

III.—*Flag to be hoisted by Ships infected with Cholera.*

Art. 19.—The Master of every ship infected with Cholera shall, when within three miles of the coast of any part of England or Wales, cause to be hoisted the Commercial Code Signal Q, being a yellow flag, under the National Ensign, and shall keep the same displayed during the whole of the time between sunrise and sunset.

Given under the Seal of Office of the Local Government Board, this Twenty-eight day of August, in the year One thousand eight hundred and ninety.

(L.S.)

CHAS. T. RITCHIE,
President.

HUGH OWEN,
Secretary.

NOTICE.—The Public Health Act, 1875, provides by Section 130 that any person wilfully neglecting, or refusing to obey or carry out, or obstructing the execution of any regulation made under that Section, shall be liable to a penalty not exceeding Fifty Pounds.

Date of publication in the London Gazette, 29th August 1890.

ADDENDUM C. No. 3.

Supplemental Cholera Order.

To all Port Sanitary Authorities:—
To all other Sanitary Authorities as defined in Our Order of the 28th day of August, 1890, hereafter recited:—
To all Masters of Ships;—
And to all others whom it may concern.

Whereas We, the Local Government Board, are empowered by Section 130 of the Public Health Act, 1875, and Section 2 of the Public Health Act, 1889, from time to time, to make, alter, and revoke such Regulations as to Us may seem fit, with a view to the treatment of persons affected with Cholera, and preventing the spread of Cholera, as well on the seas, rivers, and waters of the United Kingdom, and on the high seas within three miles of the coasts thereof, as on land, and may declare by what Authority or Authorities such Regulations shall be enforced and executed;

And whereas by an Order dated the 28th day of August, 1890, We, the Local Government Board, made Regulations under Section 130 of the Public Health Act, 1875, and Section 2 of the Public Health Act, 1889, with a view to the treatment of persons affected with Cholera, and preventing the spread of Cholera;

And whereas Article 12 of those Regulations provides as follows:—

"The Medical Officer of Health shall, as soon as possible after any such ship has been certified to be infected with Cholera, examine every person on board the same, and in the case of any person suffering from Cholera or from any illness which the Medical Officer of Health suspects may prove to be Cholera, shall certify accordingly; and any person who shall not be so certified by him shall be permitted to land immediately on giving to the Medical Officer of Health his name and place of destination, stating, where practicable, his address at such place.

"The name and address of any such person shall forthwith be given by the Medical Officer of Health to the Clerk to the Sanitary Authority and such Clerk shall thereupon transmit the same to the local Authority of the District in which the place of destination of such person is situate;"

And whereas the above recited Order has been amended by Orders made by Us and dated the 29th and 31st days of August, 1892, by which further regulations are made under the said Sections; and it is desirable that the provisions of the last-mentioned Orders should be consolidated and amended.

Now therefore, We, the Local Government Board, do, by this Our Order, in the exercise of the power conferred on Us by the Public Health Act, 1875, the Public Health Act, 1889, and every other power enabling Us in that behalf, revoke the said orders dated the 29th and 31st days of August, 1892 (except so far as relates to any proceedings taken or commenced thereunder), and make the following Regulations, and declare that they shall be duly enforced and executed:—

Art. I.—Article 12 of the said Order dated the 28th day of August, 1890, shall be amended by the omission therefrom of the words, "and any person who," and the following words to the end of the first paragraph, and the insertion of the following words in place thereof: "and a person "who shall not be so certified shall not be permitted to land, unless he "satisfy the Medical Officer of Health as to his name, place of destination, "and address at such place."

Art. II.—Where a ship is not infected with Cholera, but has passengers on board who are in a filthy or otherwise unwholesome condition, or has come from a place infected with Cholera, the Medical Officer of Health may, if in his opinion it is desirable with a view to checking the introduc-

tion or spread of Cholera, give a certificate in duplicate in the following form, or to the like effect, and shall deliver one to the Master, and retain the other or transmit it to the Sanitary Authority:—

Certificate.

day of , 189 .

Sanitary Authority of .

I hereby certify that I have examined the ship from now in the port of and that she has passengers on board in a filthy or otherwise unwholesome condition [*or* has come from a place infected with Cholera], and that in my opinion, it is desirable with a view to checking the introduction or spread of Cholera, that the persons on board the ship should not be allowed to land unless they satisfy me as to their names, places of destination, and addresses at such places.

Signed

Medical Officer of Health (or Medical Practitioner appointed by the Sanitary Authority).

Art. III.—When such certificate has been given, no person on board the ship shall leave or be allowed to leave the same unless he satisfy the Medical Officer of Health as to his name, place of destination, and address at such place; and such name and address shall forthwith be given by the Medical Officer of Health to the Clerk to the Sanitary Authority, and such Clerk shall thereupon transmit the same to the local Authority of the district in which the place of destination of such person is situate.

In this Article the term "Local Authority" means any Urban or Rural Sanitary Authority, and in the Administrative County of London any Sanitary Authority as defined by the Public Health (London) Act, 1891.

Art. IV.—If the Medical Officer of Health have reason to believe that any ship coming or being within the jurisdiction of the Sanitary Authority is infected with Cholera, or has come from a place infected with Cholera, he may direct the bilge water to be pumped out before such ship enters any Dockor Basin; and on the Sanitary Authority providing a proper supply of water for drinking and cooking purposes for persons on board the ship, he may direct all casks or tanks on board the ship containing water for the use of such persons to be emptied and cleansed, and the Master shall cause the said directions to be carried into effect.

Art. V.—This Order shall be read as one with the said Order dated the 28th day of August, 1890, and words herein shall have the same meaning as words in that Order.

Given under the Seal of Office of the Local Government Board, this Sixth day of September, in the year One thousand eight hundred and ninety-two.

Henry H. Fowler,
President.

(L.S.)

Hugh Owen,
Secretary.

Notice.—The Public Health Act, 1875, provides, by Section 130, that any person wilfully neglecting, or refusing to obey or carry out, or obstructing the execution of any regulation made under that Section shall be liable to a penalty not exceeding Fifty Pounds.

ADDENDUM C. No. 4.

SPECIMEN CODE of REGULATIONS made under SECTION 125 of the PUBLIC HEALTH ACT, 1875.

Regulations made by the Barry and Cadoxton Local Board, acting as Port Sanitary Authority, pursuant to Section 125 of the Public Health Act, 1875, for the removal to hospital and the keeping therein so long as may be necessary of persons brought within the District of such Authority by any vessel, who are infected with a dangerous infectious disorder.

1. In these Regulations the expression "The Port Sanitary Authority" means the Barry and Cadoxton Local Board, acting as Port Sanitary Authority; the expression "the District" means the area under the jurisdiction of the Port Sanitary Authority; the expression "Medical Officer of Health" includes any legally qualified Medical Practitioner lawfully authorised to act on behalf of such Officer, and the expression "dangerous infectious disorder" means any one of the following diseases:—

Small-pox;
Diphtheria;
Membranous Croup;
Erysipelas;
Scarlatina or Scarlet Fever;
Typhus Fever;
Typhoid Fever or Enteric Fever;
Relapsing Fever;
Continued Fever;
Puerperal Fever.

2. These Regulations shall remain in force until they are revoked by the Port Sanitary Authority or until fresh Regulations, under Section 125 of the Public Health Act, 1875, are made by the Port Sanitary Authority, and approved of by the Local Government Board.

3. Every master or other person having charge of a vessel arriving in the District with any person on board, whether a passenger or belonging to the ship's crew, suffering from a dangerous infectious disorder, shall stop on arrival off the entrance of Barry Dock in the Barry Roads, and forthwith send notice to the Medical Officer of Health of the Port Sanitary Authority stationed at Mount Sorrel, Barry, that there is a person on board suffering from such a disorder.

4. The Master or other person in charge of the vessel shall cause her to remain in the Barry Roads until the Medical Officer of Health has boarded her.

5. The Medical Officer of Health to whom notice is given as aforesaid shall, as soon as practicable visit the vessel, and ascertain whether the person referred to in the notice is suffering from a dangerous infectious disorder, and if, in the opinion of the Medical Officer of Health, he is, and can properly be removed, and proper accommodation can be provided for him in the hospital of the Port Sanitary Authority at Barry, or in some other hospital to which the Port Sanitary Authority are entitled to remove patients, the Master or other person having charge of the vessel shall forthwith cause such person to be removed to such hospital according to the directions of the Medical Officer of Health.

6. If any dangerous infectious disorder shall break out on board any ship arriving in the District and after she has passed into Barry Dock the Master or other person having charge of such vessel shall give notice to the Medical Officer of Health of the Port Sanitary Authority at Mount Sorrel, Barry, that there is on board a person suffering from such a disorder, and if, upon examination, the Medical Officer of Health shall find that he is so suffering, the master or other person in charge of such ship shall forthwith cause such person to be removed to a hospital to which the Port Sanitary Authority are entitled to remove patients, as directed by the Medical Officer of Health.

PENALTIES.

7. Every person who shall offend against any of the foregoing Regulations shall be liable for every such offence to a penalty of Forty shillings.

Provided, nevertheless, that the Justices or Court before whom any complaint may be made, or any proceedings may be taken, in respect of any such offence, may, if they think fit, adjudge the payment as a penalty of any sum less than the full amount of the penalty imposed by this Regulation.

The Common Seal of the Barry and Cadoxton Local Board was hereunto affixed this First day of June, 1894, in the presence of } (L.S.)

P. J. O'DONNELL
WILLIAM THOMAS } Members of the said Board.

J. ARTHUR HUGHES, Clerk to the said Board.

Approval of by the Local Government Board, this Twenty-second day of June, 1894. } (L.S.)

G. SHAW LEFEVRE, President.

HUGH OWEN, Secretary.

ADDENDUM C. No. 5.

SPECIMEN ORDER Constituting one of the RIPARIAN SANITARY AUTHORITIES of a CUSTOMS PORT the PORT SANITARY AUTHORITY for the WHOLE DISTRICT.

To the Mayor, Aldermen, and Citizens of the City of Liverpool, acting by the Council, being the Sanitary Authority for the Urban Sanitary District of that City;—

To the Mayor, Aldermen, and Burgesses of the Borough of Birkenhead, acting by the Council, being the Sanitary Authority for the Urban Sanitary District of that Borough;—

To the Mayor, Aldermen, and Burgesses of the Borough of Bootle, acting by the Council, being the Sanitary Authority for the Urban Sanitary District of that Borough;—

To the Bromborough Local Board, being the Sanitary Authority for the Urban Sanitary District of Bromborough;—

To the Garston Local Board, being the Sanitary Authority for the Urban Sanitary District of Garston;—

To the Lower Bebington Local Board, being the Sanitary Authority for the Urban Sanitary District of Lower Bebington;—

To the Toxteth Park Local Board, being the Sanitary Authority for the Urban Sanitary District of Toxteth Park;—

To the Wallasey Local Board, being the Sanitary Authority for the Urban Sanitary District of Wallasey;—

And to all others whom it may concern.

WHEREAS the Port of Liverpool is a Port established for the purposes of the laws relating to the Customs of the United Kingdom;

And whereas the City of Liverpool is an Urban Sanitary District, of which the Mayor, Aldermen, and Citizens, acting by the Council, are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said Port;

And whereas the Borough of Birkenhead is an Urban Sanitary District, of which the Mayor, Aldermen, and Burgesses, acting by the Council, are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said Port;

And whereas the Borough of Bootle is an Urban Sanitary District, of which the Mayor, Aldermen, and Burgesses, acting by the Council, are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said Port;

And whereas the Local Government District of Bromborough is an Urban Sanitary District, of which the Bromborough Local Board are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said Port;

And whereas the Local Government District of Garston is an Urban Sanitary District, of which the Garston Local Board are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said Port;

And whereas the Local Government District of Lower Bebington is an Urban Sanitary District, of which the Lower Bebington Local Board are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said Port;

And whereas the Local Government District of Toxteth Park is an Urban Sanitary District, of which the Toxteth Park Local Board are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said Port;

And whereas the Local Government District of Wallasey is an Urban Sanitary District, of which the Wallasey Local Board are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said Port;

And whereas the said Urban Sanitary Authorities are Riparian Authorities of the said Port, and it is expedient that a Port Sanitary Authority should be constituted permanently for the said Port, and that the expenses incurred by such Port Sanitary Authority should be apportioned as herein-after mentioned:

Now therefore, in pursuance of the powers given to Us by the Statutes in that behalf, We hereby Order as follows:—

SECTION I.—*Constitution of Port Sanitary Authority.*

Art. I.—This Order shall come into operation on the Fourth day of December, One thousand eight hundred and ninety-three, unless it shall become Provisional.

Art. II.—The Mayor, Aldermen, and Citizens of the said City of Liverpool, acting by the Council, as the said Urban Sanitary Authority, shall be permanently constituted the Port Sanitary Authority for the said Port of Liverpool.

SECTION II.—*Limits of Jurisdiction.*

Art. III.—The jurisdiction of the said Port Sanitary Authority shall extend to the whole of the said Port of Liverpool, including the place or places for the time being appointed as the Customs Boarding Station or Stations for the said Port, and the place for the time being appointed for the mooring or anchoring of ships for the said Port under any regulation for the prevention of the spread of diseases issued under the authority of the Statutes in that behalf, and all rivers, bays, channels, roads, bars, strands, harbours, havens, streams, and creeks, belonging to the said port; and so much of the District of any Riparian Authority as comprises any dock, basin, quay, wharf, or other place for the embarcation or disembarcation of persons, or the lading, unlading, transhipping, or removal of goods on or from any ship, vessel, or boat.

SECTION III.—*Assignment of Powers, &c.*

Art. IV.—For the purposes of this Order the following Sections of The Public Health Act, 1875, the Public Health (Officers) Act, 1884, the Public Health (Ships, &c.) Act, 1885, the Public Health (Members and Officers) Act, 1885, and the Public Health Acts Amendment Act, 1890, shall apply; and the Port Sanitary Authority shall have, exercise, perform, and be subject to, all the powers, rights, duties, capacities, liabilities, and obligations of an Urban Sanitary Authority under the same Sections, so far as those Sections are applicable to the waters within the jurisdiction of the said Port Sanitary Authority, or to ships coming or being within the said jurisdiction, or to persons upon any such ship, or brought by any

such ship within the said jurisdiction, or to goods or things upon any such ship, or to goods or things landed from any such ship and being within the said jurisdiction and which in the opinion of the said Authority or their Medical Officer of Health require to be disinfected or destroyed; namely,—

Of The Public Health Act, 1875:—
Sections 91 to 111, both inclusive, relating to Nuisances.
Sections 120 to 133, both inclusive, relating to Infectious Diseases and Hospitals.
Sections 134 to 140, both inclusive, as to the prevention of Epidemic Diseases.
Sections 141 and 142, relating to Mortuaries.
Sections 173 and 174, relating to Contracts.
Sections 175, 176, and 177, relating to Purchase of Lands.
Sections 179, 180, and 181, relating to Arbitration.
Sections 182 to 186, both inclusive, and Section 188, relating to Byelaws.
Section 189 (except as regards the offices of Surveyor and Collector), Sections 191 to 196, both inclusive, and Sections 197, 198, 200, 203, 205, and 206, relating to Officers and Conduct of Business of Local Authorities.
Sections 236 to 239, both inclusive, relating to Mortgages.
Sections 245, 247 (as amended by the District Auditors Act, 1879), 249, and 250, relating to Audit.
Sections 251, and 253 to 268, both inclusive, and Section 269 (as amended by the Summary Jurisdiction Act, 1884), relating to Legal Proceedings.
Sections 299 to 302, both inclusive, relating to Defaulting Local Authorities.
Sections 305 to 309, both inclusive, relating to Miscellaneous Provisions.
Sections 327, 328, and 329, being Saving Clauses.
Of the Public Health (Officers) Act, 1884:—
Section 2.
Of the Public Health (Ships, &c.) Act, 1885:—
Section 2.
Of the Public Health (Members and Officers) Act, 1885:—
Section 2.
Of the Public Health Acts Amendment Act, 1890:—
Section 3, so far as it enables an Urban Sanitary Authority to adopt Section 48.

Provided as follows:—
(1.) Nothing herein contained shall affect the powers of any Riparian Authority except as to such waters, ships, persons, and things as above-mentioned;
(2.) In this Article the term "ship" includes vessel or boat.

SECTION IV.—*Expenses, Accounts, &c.*

Art. V.—The Riparian Authorities before-mentioned shall contribute towards any expenses incurred or to be incurred by the said Port Sanitary Authority, by virtue of the authority conferred upon them by this Order, in the proportions following; namely,—

The Urban Sanitary Authority for the City of Liverpool shall contribute - - -	72·6	per centum.
The Urban Sanitary Authority for the Borough of Birkenhead shall contribute - - - -	11·2	,,
The Urban Sanitary Authority for the Borough of Bootle shall contribute - - - -	6·3	,,
The Urban Sanitary Authority for the Local Government District of Bromborough shall contribute - - - -	0·2	,,
The Urban Sanitary Authority for the Local Government District of Garston shall contribute - - - - - -	1·8	,,

The Urban Sanitary Authority for the Local Government District of Lower Bebington shall contribute - - - - -	0·5 per centum.
The Urban Sanitary Authority for the Local Government District of Toxteth Park shall contribute - - - - - -	3·3 ,,
The Urban Sanitary Authority for the Local Government District of Wallasey shall contribute - - - - - -	4·1 ,,

Art. VI.—The Accounts of the Port Sanitary Authority shall at all reasonable times be open to inspection and transcription, without payment, by any member of any Riparian Authority contributing as aforesaid, or by any officer of any such Authority authorised by them for that purpose.

Art. VII. A copy of the Auditor's Report and of the abstract of the Accounts of the Port Sanitary Authority, when duly audited, shall be sent by Port Sanitary Authority to each of the Riparian Authorities contributing as aforesaid.

Art. VIII.—If at any time any difference arises between the Port Sanitary Authority on the one hand, and any Riparian Authority or Authorities on the other hand, or between any two or more Riparian Authorities, respecting any matter arising out of the provisions of this Order, the same shall be referred to and be settled by arbitration in the manner provided by the Public Health Act, 1875.

Art. IX.—The Port Sanitary Authority, for the purpose of obtaining payment of sums to be contributed by the Sanitary Authorities as aforesaid shall have all the powers conferred in this behalf by Section 290 of The Public Health Act, 1875, on a Port Sanitary Authority constituted temporarily.

Provided that, for the purposes of this Order, any person appointed by the Port Sanitary Authority, may inspect, take copies of, or make extracts from any Valuation List or Poor Rate in force in the said Urban Sanitary Districts, or any part of such Districts, or any book relating to the same.

Given under the Seal of Office of the Local Government Board, this Thirty-first day of October, in the year One thousand eight hundred and ninety-three.

HENRY H. FOWLER,
President.

(L.S.)
S. B. PROVIS,
Assistant Secretary.

ADDENDUM C. No. 6.

SPECIMEN ORDER constituting a JOINT BOARD the PORT SANITARY AUTHORITY of a COMBINATION of DISTRICTS.

To the Mayor, Aldermen, and Burgesses of the Borough of Bridgewater, acting by the Council, being the Sanitary Authority for the Urban Sanitary District of that Borough;—

To the Burnham Local Board, being the Sanitary Authority for the Urban Sanitary District of Burnham:—

To the Guardians of the Poor of the Axbridge Union, being the Sanitary Authority for the Rural Sanitary District of that Union;—

To the Guardians of the Poor of the Bridgewater Union, being the Sanitary Authority for the Rural Sanitary District of that Union;—

And to all others whom it may concern.

WHEREAS the Port of Bridgewater is a Port established for the purposes of the laws relating to the Customs of the United Kingdom;

And whereas the Borough of Bridgewater is an Urban Sanitary District, of which the Mayor, Aldermen, and Burgesses, acting by the Council, are the Urban Sanitary Authority, and such district forms part of, or abuts upon, the part of the said Port herein-after described;

And whereas the Local Government District of Burnham is an Urban Sanitary District, of which the Burnham Local Board are the Urban Sanitary Authority, and such District forms part of, or abuts upon, the said part of the said Port;

And whereas part of the Axbridge Union is a Rural Sanitary District, of which the Guardians of the Poor of the Union are the Rural Sanitary authority, and such District forms part of, or abuts upon, the said part of the said Port;

And whereas part of the Bridgewater Union is a Rural Sanitary District, of which the Guardians of the Poor of the Union are the Rural Sanitary Authority, and such District forms part of, or abuts upon, the said part of the said Port;

And whereas the said Sanitary Authorities are Riparian Authorities of the said part of the said Port;

And whereas We, the Local Government Board, by an Order dated the 15th day of March 1881, constituted the Mayor, Alderman, and Burgesses of the said Borough of Bridgewater the Port Sanitary Authority for the part of the said Port and the waters and places which are described in that Order until the 25th day of March 1882, and by several Orders, the last of which was dated the 23rd day of February 1894, the first above-cited Order was renewed for the periods specified therein, the last of such periods extending to the 29th day of September 1894, unless before such last-mentioned date We should otherwise prescribe;

And whereas We have proposed to issue an order for permanently constituting a Port Sanitary Authority for the whole or part of the said port, and accordingly directed a Local Inquiry to be held on the subject, which Inquiry was held after due public notice, and Report has been made to Us thereon:

Now therefore, in pursuance of the powers given to Us by the Statutes in that behalf, We hereby Order as follows:—

SECTION I.—*Constitution of Port Sanitary Authority.—Joint Board.*

Art. 1.—This Order shall come into operation on the First day of August, One thousand eight hundred and ninety-four, unless it shall become Provisional; and upon the day on which this Order comes into operation (herein-after referred to as "the commencement of this Order") the said Order of the Twenty-third day of February, One thousand eight hundred and ninety-four shall cease to have effect:

Provided that the said Order dated the Fifteenth day of March, one thousand eight hundred and eighty-one, shall be continued in force, and the Mayor, Aldermen, and Burgesses of the Borough of Bridgewater, acting by the Council, shall, notwithstanding anything herein contained, continue to act as the Port Sanitary Authority, under the provisions of such order, for the port sanitary district defined by the said Order until the day of the first meeting of the permanent Port Sanitary Authority constituted under the provisions hereof.

Art. II.—A Joint Board shall be formed as herein-after mentioned, and shall be permanently constituted the Port Sanitary Authority f the part of the said Port of Bridgewater herein-after described.

Art. III.—The provisions of Rules 5 and 64 of Schedule II. to the Public Health Act, 1875, and of Section 4 of the Public Health (Members and Officers) Act, 1885, shall, *mutatis mutandis*, apply to the members of the Joint Board.

Art. IV.—The Joint Board shall be termed "The Bridgewater Port Sanitary Authority," and shall consist of Twelve representative members, to be chosen by the members of each of the under-mentioned Riparian authorities from among the members of their own body as follows; namely,—

Six by the Urban Sanitary Authority for the Borough of Bridgewater.
Two by the Urban Sanitary Authority for the Local Government District of Burnham.

One by the Rural Sanitary Authority for the Rural Sanitary District of the Axbridge Union.
Three by the Rural Sanitary Authority for the Rural Sanitary District of the Bridgewater Union.

The first election of representative members of the Joint Board by those authorities shall take place at one of the ordinary meetings of each of such Authorities, held within six weeks from the commencement of this Order, or within such further time as We may, by Order, allow. Previous to the election notice thereof shall be given and entered on the minutes at the ordinary meeting of the Authority next preceding the meeting at which it is proposed that the election shall take place.

Art. V.—The Clerk to each of the Authorities mentioned in Article IV. of this Order shall notify in writing to Us, within seven days after such first election shall have taken place, the names and addresses of the persons elected by such Authority as members of the Joint Board.

Art. VI.—The several members of the Joint Board shall go out of office, and their successors shall come into office, on the First day of January in each year. The election of the members for the ensuing period of office by the said Riparian Authorities shall in each year take place at the ordinary meeting of each of such Authorities next preceding such date, or at such meeting as We may by Order determine.

Art. VII.—Every member of the Joint Board shall continue in office until the expiration of the period for which he was elected a member of such Board, or until he dies, or resigns, or becomes disqualified, or ceases to be a member of the Riparian Authority by which he was elected, whichever shall first happen: Provided that, for the purposes of this Article, no member of the Joint Board shall be deemed to have ceased to be a member of the Riparian Authority by which he was elected who goes out of office by rotation as a member of such Authority, and who is immediately re-elected.

A member of the Joint Board who ceases to hold office by reason of the expiration of his period of office, or by reason of his resignation, or disqualification, or of his ceasing to be a member of such Riparian Authority, shall, subject to the provisions of article III. of this Order, be re-eligible as a member of the Joint Board, provided that at the time of re-election he is qualified to be so re-elected.

Art. VIII.—Any casual vacancy in the Joint Board occurring by death, resignation, disqualification, or otherwise, shall be filled up by the proper Riparian Authority at one of their ordinary meetings held within six weeks of such vacancy occurring, or within such further period as we may by Order determine. Previous to the election of a member of the authority to fill the vacancy, notice thereof shall be given and entered on the minutes at the ordinary meeting of the Authority next preceding the meeting at which it is proposed that the election shall take place.

Art. IX.—The time and place of holding the first meeting of the Joint Board shall be fixed by Us, and the subsequent ordinary meetings of the Joint Board shall be held at such times and places as the Joint Board may appoint; and at all meetings of the Joint Board three members shall constitute a quorum.

Provided that an extraordinary meeting shall be summoned by the Clerk to the Joint Board when a requisition for that purpose is addressed to him by the Chairman or any three members of the Joint Board. Such requisition shall be in writing, and no business other than that specified in the requisition shall be transacted at such extraordinary meeting.

Notices of all meetings of the Joint Board shall be delivered or sent by post so as to reach the last known place of abode or business in England of each member of the Joint Board two clear days before the day of meeting, or at such earlier time as the Joint Board may from time to time direct.

SECTION II.—*Limits of Jurisdiction.*

Art. X.—The jurisdiction of the said Port Sanitary Authority shall extend to so much of the said Port of Bridgewater as lies to the landward of a straight line drawn from the most northerly extremity of Stert Point to the seaward extremity of the common boundary of the Parishes of Burnham-with-Aston, Morris, and Berrow; together with the waters of the said Port, and the rivers, creeks, and pills within the aforesaid limits, and the place or places which may from time to time be appointed as the Customs Boarding Station or Stations for such part of the said Port, and the place or places for the time being appointed for the mooring or anchoring of ships for such part of the said Port under any Regulations for the prevention of the spread of diseases issued under the authority of the Statutes in that behalf, and, for the purposes of any such Regulations as aforesaid shall also extend to any ship which in pursuance thereof, or of any directions given thereunder, shall be moored or anchored at the place appointed thereunder as aforesaid, or which shall be on its way thither.

SECTION III.—*Assignment of Powers, &c.*

Art. XI.—For the purposes of this Order the following Sections of the Public Health Act, 1875, the Public Health (Officers) Act, 1884, the Public Health (Ships, &c.) Act, 1885, the Public Health (Members and Officers) Act, 1885, and the Public Health Acts Amendment Act, 1890, shall apply; and the Port Sanitary Authority shall have, exercise, perform, and be subject to, all the powers, rights, duties, capacities, liabilities, and obligations of an Urban Sanitary Authority under the same Sections, so far as those Sections are applicable to the waters within the jurisdiction of the said Port Sanitary Authority, or to ships coming or being within the said jurisdiction, or to persons upon any such ship or brought by any such ship within the said jurisdiction, or to goods or things upon any such ship, or to goods or things landed from any such ship and being within the said jurisdiction, which in the opinion of the said Authority or their Medical Officer of Health require to be disinfected or destroyed; namely—

Of the Public Health Act, 1875:—

Sections 91 to 111, both inclusive, relating to Nuisances.

Sections 120 to 133, both inclusive, relating to Infectious Diseases and Hospitals.

Sections 134 to 140, both inclusive, relating to the Prevention of Epidemic Diseases.

Sections 141 and 142, relating to Mortuaries.

Sections 173 and 174, relating to Contracts.

Sections 175, 176, and 177, relating to Purchase of Lands.

Sections 179, 180, and 181, relating to Arbitration.

Sections 182 to 186, both inclusive, and Section 188, relating to Byelaws.

Section 189 (except as regards the offices of Surveyor and Collector), Sections 191 to 196, both inclusive, and Sections 197, 200, 203, 204, 205, and 206, relating to Officers and Conduct of Business of Local Authorities.

Sections 236 to 239, both inclusive, relating to Mortgages.

Sections 245, 247 (as amended by the District Auditors Act, 1879), 249 and 250, relating to Audit.

Sections 251, and 253 to 268, both inclusive, and Section 269 (as amended by the Summary Jurisdiction Act, 1884), relating to Legal Proceedings.

Sections 278, 280 (second clause), and 282.

Sections 299 to 302, both inclusive, relating to defaulting Local Authorities.

Sections 305 to 309, both inclusive, relating to Miscellaneous Provisions.

Sections 327, 328, and 329, being Saving Clauses.

Of the Public Health (Officers) Act, 1884:—

Section .

Of the Public Health (Ships, &c.) Act, 1885:—
Section 2.
Of the Public Health (Members and Officers) Act, 1885:—
Section 2.
Of the Public Health Acts Amendment Act, 1890:—
Section 3, so far as it enables an Urban Sanitary Authority to adop
Section 48.
Provided as follows:—
(1.) Nothing herein contained shall effect the powers of any Riparian Authority except as to such waters, ships, persons, and things as above-mentioned.
(2.) In this Article the term "ship" includes vessel or boat.

SECTION IV.—*Expenses, Accounts, &c.*

Article XII.—The Riparian Authorities before mentioned shall contribute towards any expenses incurred or to be incurred by the said Port Sanitary Authority, by virtue of the authority conferred upon them by this Order, in the proportions following; namely,—

The Urban Sanitary Authority for the Borough of Bridgwater shall contribute - - -	Six-Twelfths.
The Urban Sanitary Authority for the Local Government District of Burnham shall contribute	Two-Twelfths.
The Rural Sanitary Authority for the Rural Sanitary District of the Axbridge Union shall contribute -	One-Twelfth.
The Rural Sanitary Authority for the Rural Sanitary District of the Bridgewater Union shall contribute	Three-Twelfths.

Article XIII.—The Accounts of the Port Sanitary Authority shall at all reasonable times be open to inspection and transcription, without payment, by any member of any Riparian Authority contributing as aforesaid, or by any officer of any such Authority authorised by them for that purpose.

Article XIV.—A copy of the Auditor's Report and of the abstract of the Accounts of the Port Sanitary Authority, when duly audited, shall be sent by the said Authority to each of the Riparian Authorities contributing as aforesaid.

Article XV.—If at any time any difference arises between the Port Sanitary Authority on the one hand and any Riparian Authority or Authorities on the other hand, or between any two or more Riparian Authorities, respecting any matter arising out of the provisions of this Order, the same shall be referred to and be settled by arbitration in the manner provided by the Public Health Act, 1875.

Article XVI.—The Port Sanitary Authority, for the purpose of obtaining payment of sums to be contributed by the Sanitary Authorities as aforesaid, shall have all the powers conferred in this behalf by Section 290 of the Public Health Act, 1875, on a Port Sanitary Authority constituted temporarily.

Given under the Seal of Office of the Local Government Board this Twenty-first day of June, in the year One thousand eight hundred and ninety-four.

(L.S.) G. SHAW LEFEVRE, *President.*

S. B. PROVIS, *Assistant Secretary.*

ADDENDUM C. No. 7.

SPECIMEN ORDER fixing a MOORING STATION outside the DISTRICT of a SANITARY AUTHORITY.

To the Bridlington Local Board, being the Sanitary Authority for the Urban Sanitary District of Bridlington, in the County of the East Riding of Yorkshire:—
To the Officers of Customs of the Port of Hull;—

To the Medical Officer of Health of the said Sanitary Authority;—
To all Masters of Ships;—
To all Pilots;—
And to all others whom it may concern.

Whereas We, the Local Government Board, by an Order dated the 28th day of August, 1890 (herein-after referred to as "the Regulations"), in exercise of the powers conferred upon Us by Section 130 of The Public Health Act, 1875, and by Section 2 of the Public Health Act, 1889, made certain rules and regulations with the view to the treatment of persons affected with Cholera, and for preventing the spread of that disease;

And whereas by a further Order dated the 6th day of September, 1892, We made additional regulations for the prevention of the spread of Cholera, and by Article v. thereof directed that such Order should be read as one with the regulations;

And whereas it is provided by Article 6 of the Regulations that every Port Sanitary Authority and every other Sanitary Authority within whose District persons are likely to be landed from any ship coming foreign shall, as speedily as practicable, with the approval of the Chief Officer of Customs of the port, fix some place where the Master of any ship certified under the Regulations to be infected with Cholera shall, as required by Article 10 of the regulations, moor or anchor such ship until the requirments of the Regulations have been duly fulfilled; and that the place to be fixed as aforesaid shall be some place within the jurisdiction or district of the Sanitary Authority, unless We otherwise consent;

And whereas it is further provided by the said Article 6 that any place fixed as aforesaid, with Our consent, outside the jurisdiction or district of a Sanitary Authority, shall, for the purposes of the Regulations, be deemed to be within such jurisdiction or district;

And whereas the said Sanitary Authority propose to fix the place herein-after referred to, and shown on the Map or Chart in the Schedule annexed to this Order, as the place where any ship may be moored or anchored for the purpose of Article 10 of the Regulations, and such place being situate without their jurisdiction or district, have made application to Us for Our consent in the matter:

Now therefore, We, the Local Government Board, in pursuance of the powers conferred upon Us by the above-mentioned Sections, and of every other power enabling Us in this behalf, do hereby Declare, Order, and Direct as follows:

Art. I.—We consent to the said Sanitary Authority for the Urban Sanitary District of Bridlington fixing, with the approval of the Chief Officer of Customs of the Port of Hull, the place shown by the circle drawn in red on the Map or Chart in the Schedule to this Order, as the place where any ship bound to any place within the District of such Sanitary Authority, and certified under the Regulations to be infected with Cholera, shall be moored or anchored for the purpose of Article 10 of the Regulations.

Art. II.—The jurisdiction of the said Sanitary Authority shall, for the purpose of the Regulations, be deemed to extend, and, subject to the provisions of this Order, the Regulations shall apply, to any ship certified as aforesaid, which, in pursuance of the Regulations, or of any directions given thereunder, shall be moored at the place fixed as a Mooring Station, and herein-before referred to, or which shall be on its way thither.

Given under the Seal of Office of the Local Government Board, this Seventh day of December, in the year One thousand eight hundred and ninety-three.

(L.S.)

Henry H. Fowler,
President.

S. B. Provis,
Assistant Secretary.

SCHEDULE.

(Extract from a Chart of the East Coast of England (Blakeney to Flamborough Head) published at the Admiralty, 20th April 1890.)

Wyman & Sons, Ltd. Lith., G.S.

ADDENDUM C. No. 8.

EXCERPT from a GENERAL ORDER of the BOARD dated 19th June 1893, defining the DUTIES of PORT MEDICAL OFFICERS OF HEALTH.

SECTION V.—*Duties.*

Art. 13.—The following shall be the duties of the Medical Officer of Health in respect of the Port Sanitary District for which he is appointed:—

(1.) He shall inform himself as far as practicable respecting all influences affecting or threatening to affect injuriously the health of crews and other persons on ship-board within the District.

(2.) He shall inquire into and ascertain by such means as are at his disposal the causes, origin, and distribution of diseases in the ships and other vessels within the District, and ascertain to what extent the same have depended on conditions capable of removal or mitigation.

(3.) He shall by inspection of the shipping in the District keep himself informed of the conditions injurious to health existing therein.

(4.) He shall be prepared to advise the Port Sanitary Authority on all matters affecting the health of the crews and other persons on ship-board in the District, and on all sanitary points involved in the action of the Port Sanitary Authority; and in cases requiring it he shall certify, for the guidance of the Port Sanitary Authority or of the Justices, as to any matter in respect of which the certificate of a Medical Officer of Health or a Medical Practitioner is required as the basis or in aid of sanitary action.

(5.) He shall advise the Port Sanitary Authority on any question relating to health involved in the framing and subsequent working of such bye-laws and regulations as they may have power to make.

(6.) On receiving information of the arrival within the District of any ship or other vessel having any infectious or epidemic disease of a dangerous character on board, or of the outbreak of any such disease on board any ship or other vessel within the District, he shall visit the vessel without delay and enquire into the causes and circumstances of such outbreak, and advise the persons competent to act as to the measures which may appear to him to be required to prevent the extension of the disease, and so far as he may be lawfully authorised, assist in the execution of the same.

(7.) On receiving information from the Inspector of Nuisances that his intervention is required in consequence of the existence of any nuisance injurious to health, or of any overcrowding in a ship or other vessel, he shall as early as practicable, take such steps authorised by The Public Health Act, 1875, in that behalf, as the circumstances of the case may justfy and require.

(8.) He shall perform all the duties imposed upon him by any byelaws and regulations of the Port Sanitary Authority, duly confirmed, in respect of any matter affecting the public health, and touching which they are authorised to frame byelaws and regulations.

(9.) He shall attend at the office of the Port Sanitary Authority, or at some other appointed place, at such stated times as they may direct.

(10.) He shall from time to time report in writing to the Port Sanitary Authority his proceedings, and the measures which may require to be adopted for the improvement or protection of the health of crews or other persons on ship-board in the District. He shall in like manner report with respect to the sickness and mortality of persons on ship-board within the District, so far as he has been enabled to ascertain the same.

(11.) He shall keep a book or books, to be provided by the Port Sanitary authority, in which he shall make an entry of his visits, and notes of his observations and instructions thereon, and also the date and nature of applications made to him, the date and result of the action taken thereon, and of every action taken on previous reports; and shall produce such book or books, whenever required, to the Port Sanitary Authority.

(12.) He shall also prepare an annual report, to be made to the end of December in each year, comprising tabular statements (so far as he shall have been able to obtain the necessary information) of the sickness and mortality of persons on ship-board within the District, classified according to diseases, ages, and vessels; and a summary of the action taken during the year for preventing the spread of disease. The report shall also contain an account of the proceedings in which he has taken part or advised under The Public Health Act, 1875, so far as such proceedings relate to conditions dangerous or injurious to health, and also an account of the supervision exercised by him or on his advice for sanitary purposes, over places and vessels that the Port Sanitary Authority has power to regulate, with the nature and results of any proceedings which may have been so required and taken in respect of the same during the year.

(13.) He shall give immediate information to the Local Government Board of any outbreak of infectious or epidemic disease of a dangerous character on ship-board within the District, and shall transmit to the Board a copy of each annual and of any special report.

(14.) Where any vessel within his District has had dangerous infectious disease on board, he shall give notice thereof to the Medical Officer of Health of any Port within the United Kingdom whither such vessel is about to sail.

(15.) He shall observe and execute, so far as they may be applicable to his office, the rules and regulations of the Local Government Board in force for the time being, and any instructions of the said Board, and the lawful orders and directions of the Port Sanitary Authority.

ADDENDUM C. No. 9.

EXCERPT from a GENERAL ORDER of the BOARD dated July 19th, 1883, defining the duties of PORT INSPECTORS of NUISANCES.

SECTION IV.—*Duties.*

Art. 13.—The following shall be the duties of the Inspector of Nuisances in respect of the Port Sanitary District for which he is appointed:—

(1.) He shall perform, either under the special directions of the Port Sanitary Authority, or (so far as authorised by the Port Sanitary Authority) under the directions of the Medical Officer of Health, or in cases where no such directions are required without such directions, all the duties specially imposed upon an Inspector of Nuisances by the Sections of The Public Health Act, 1875, which shall apply to the Port Sanitary Authority, or by the Orders of the Local Government Board, so far as the same apply to his office.

(2.) He shall attend all Meetings of the Port Sanitary Authority when so required.

(3.) He shall, by inspection of the Shipping in the District, keep himself informed in respect of the nuisances existing therein that require abatement under The Public Health Act, 1875.

(4.) On receiving notice of the existence of any nuisance on board of any ship or other vessel within the District, or of the breach of any byelaws or regulations made by the Port Sanitary Authority for the suppression of nuisances, he shall, as early as practicable, visit the vessel, and inquire into such alleged nuisance or breach of byelaws or regulations.

(5.) He shall give immediate notice to the Medical Officer of Health of the occurrence within his District of any infectious or epidemic disease of a dangerous character, or of the arrival within the District of any ship or other vessel having such disease on board; and whenever it appears to him that the intervention of such Officer is necessary in consequence of the existence of any nuisance injurious to health, or of any overcrowding in a vessel, he shall forthwith inform the Medical Officer thereof.

(6.) He shall, subject in all respects to the directions of the Port Sanitary Authority, attend to the instructions of the Medical Officer of Health with respect to any measures which can be lawfully taken by him under The Public Health Act, 1875, for preventing the spread of any infectious or epidemic disease of a dangerous character.

(7.) He shall enter from day to day, in a book to be provided by the Port Sanitary Authority, particulars of his inspections and of the action taken by him in the execution of his duties. He shall also keep a book or books, to be provided by the Port Sanitary Authority, so arranged as to form, as far as possible, a record of the sanitary condition of each of the ships or other vessels in respect of which any action has been taken under the Sanitary Acts, and shall keep any other systematic records that the Port Sanitary Authority may require.

(8.) He shall at all reasonable times, when applied to by the Medical Officer of Health, produce to him his books, or any of them, and render to him such information as he may be able to furnish with respect to any matter to which the duties of Inspector of Nuisances relate.

(9.) He shall observe and execute, so far as they may be applicable to his office, the rules and regulations of the Local Government Board in force for the time being, and any instructions of the said Board, and the lawful orders and directions of the Port Sanitary Authority.

Index to Customs Ports, Port Sanitary Districts, Urban and Rural Riparian Sanitary Districts.

[C.P. signifies Customs Port. P.S.D., Port Sanitary District. Urban, Urban Riparian Sanitary District. Rural, Rural Riparian Sanitary District.]

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